# 2003 4<sup>th</sup> QUARTER GROUNDWATER MONITORING REPORT

# **FOR**

# FORMER ANGELES CHEMICAL COMPANY FACILITY 8915 SORENSEN AVENUE SANTA FE SPRINGS, CALIFORNIA

Prepared by:
Blakely Environmental Investigations, Inc.
4359 Phelan Road
Phelan, CA 92371
(760)-868-8572

David A. Blakely Sr. Scientist REA II #20025



Hiram D. Garcia REA II #20048



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# TABLE OF CONTENTS

1.0)	INTRO	DDUCTION	1
2.0)	SITE I	OCATION AND HISTORY	1
3.0)	REGIO	DNAL GEOLOGY/HYDROGEOLOGY	4
4.0)	SITE	GEOLOGY/HYDROGEOLOGY	5
5.0)	GROU 5.1) 5.2) 5.3) 5.4)	NDWATER MONITORING PROTOCOL Well Purging and Measurement of Field Parameters Well Sampling Sample Handling Waste Management	5 7 8 8 9
6.0)	FREE	PRODUCT REMOVAL	9
7.0)	GROU	INDWATER SAMPLE RESULTS	9
8.0)	CONC	LUSIONS	13
9.0)	RECO	MMENDATIONS	13
FIGU.	RES		
Figure Figure Figure Figure Figure Figure Figure	e 2 e 3 e 4 e 5 e 6 e 7 e 8 e 9	Site Location Map Well Location Map Gasper Groundwater Gradient Map Gage/Hollydale Groundwater Gradient Map TPH-g and BTEX Concentrations in Gasper Aquifer TPH-g and BTEX Concentrations in Gage/Hollydale Aquifer Chlorinated VOC Concentrations in Gasper Aquifer Chlorinated VOC Concentrations in Gage/Hollydale Aquifer Acetone, MEK, and Methylene Chloride in Gasper Aquifer Acetone, MEK, and Methylene Chloride in Gage/Hollydale Acetone,	quifer

# APPENDICES

Appendix A Field Sampling Logs
Appendix B Groundwater Laboratory Analysis Results

#### 1.0) INTRODUCTION

Blakely Environmental Investigations, Inc. (BEII) was contracted by Greve Financial Services ((310) 753-5770) to perform quarterly groundwater monitoring at the former Angeles Chemical Company (ACC), Inc. facility located at 8915 Sorensen Avenue, Santa Fc Springs, California (See Figure 1, Site Location Map). The quarterly groundwater monitoring was requested by the Department of Toxics Substance Control (DTSC) correspondence dated September 18, 2001. This report presents the results of the 2003 3<sup>rd</sup> quarter monitoring episode performed from December 9 through 11, and 15 of 2003.

#### 2.0) SITE LOCATION AND HISTORY

The site is approximately 1.8 acres in size and completely fenced. The site is bound by Sorensen Avenue on the east, Air Liquide Corporation to the north and northwest, Plastall Metals Corporation to the north, and a Southern Pacific Railroad easement and Mckesson Chemical Company to the south.

The property was owned by Southern Pacific Transportation Company and was not developed until 1976.

The ACC has operated as a chemical repackaging facility since 1976. A total of thirty-four (34) underground storage tanks (USTs) existed beneath the site. Two (2) USTs, one gasoline and one diesel, and sixteen (16) chemical USTs were excavated and removed under the oversight of the Santa Fe Springs Fire Department. All 16 remaining chemical USTs were decommissioned in place and slurry filled.

In January 1990, SCS Engineers, Inc. (SCS) conducted a site investigation. SCS advanced eight borings from 5' below grade (bg) to 50' bg. Soil samples collected and analyzed identified benzene, 1,1-Dichloroethane (1,1-DCA), 1,1-Dichloroethane (1,1-DCE), MEK, methyl isobutyl ketone (MIBK), toluene, 1,1,1 Trichloroethane (1,1,1-TCA), Tetrachloroethylene (PCE), and xylenes at detectable concentrations.

In June 1990, SCS performed an additional site investigation at the site by advancing six additional borings advanced from 20.5' bg to 60' bg. A monitoring well (MW-1) was also installed. Soil sample analysis identified detectable concentrations of the above mentioned VOCs in addition to acetone and methylene chloride. Dissolved benzene, 1,1-DCA, 1,1-DCE, PCE, Trichloroethylene (TCE), and trans-1,2-dichloroethene were detected in MW-1 above maximum contaminant levels.

Between 1993 and 1994, SCS performed further testing at the site. Soil samples were collected from nine borings. Five borings were converted to groundwater monitoring wells MW-2, MW-3, MW-4, MW-6, and MW-7 (See Figure 2, Well Location Map). The predominant compounds detected in soil were acetone, MEK, MIBK, PCE, toluene, 1,1,1-TCA, TCE, and xylenes. Groundwater sample collection performed in

February 1994 by SCS identified the following using EPA method 624 (laboratory results included in Remedial Investigation Report dated August 1994 by SCS):

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Tale and Benzene	11.72	< <u>÷Ϊ(016×</u>			METO COMPENSATION AND
1,1-DCA	649	1,130	85	1,410	2,260 2,130
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1,1-DCE	2,210	2,460	2,800	806	1,240 151
		1.720		11.41.810	<b>和於加州斯科</b> 525年5
Methylene Chloride	1,220	2,980	6,530	<u>4</u> ,7 <b>6</b> 0	<b>,21,400</b> <50
26 27 PG16	/s/s <sup>2</sup> 2	2250	37/0	25/31/2(0):	2 NE OFFICE 134 (2)
Toluene		7,390	579	12,700	13,500 398
MARKET MATERIAL TO A STATE OF THE STATE OF T	2.3700	3,47/0		3/61/2/00	10 1 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1
. Territoria de la companya della companya de la co	7,160	3,040	1,730	14,300	1,320 45
zenelizza zaza	1.4/4(0)	7-79.0	EQUA	42/30/2	<b>建设的0克基础设置</b> 1883255
Units	μg/L	μg/L	µg/L.	μέ⁄Ι	μg/L μg/L

In 1996, SCS performed separate soil vapor extraction pilot testing beneath the site at approximately 10' bg and 22' bg. Laboratory analysis identified maximum soil vapor gas concentrations as 1,1,1-TCA (30,300 ppmV) with detectable concentrations of 1,1-DCE, TCE, methylene chloride, toluene, PCE and xylenes. The maximum radius of influence from the various extraction units used were measured as 35 feet at 10' bg and 80 feet at 22' bg.

In November 1997, SCS performed a soil vapor survey at the site. Soil vapor samples were collected at twenty-three locations at 5' bg. In addition, soil vapor samples were collected at 15' bg in five of the twelve sampling points. The soil vapor survey identified maximum volatile organic compound (VOC) contaminants near the railroad tracks on site, the location where a rail tanker reportedly had an accidental release.

In July 2000, BEII contracted BLC Surveying, Inc. to perform a site survey. Well locations were recorded using the California Plane coordinate systems. A copy of the survey is on file with the DTSC.

In September 2000, Blaine Tech Services, Inc. gauged the six on-site monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-6, and MW-7) under the supervision of BEII. Free product (FP) was identified in monitoring well MW-4 at 0.21-feet in thickness. Approximately 0.5 liters of FP were removed from the well and placed in a sealed 55-gallon drum.

BEII performed a soil vapor gas survey at the site from November 27 to December 1, 2000. A total of 36 soil vapor sample points, labeled SV1 through SV36, were selected by BEII and approved by the DTSC for analysis. Two discrete soil vapor samples were collected from each soil vapor sample point, one at 8' bg and one at 20' bg. SV1 was an exception since the first soil vapor sample was collected at 10' bg instead of

8' bg. Based on the soil vapor sample results, BEII identified relatively low level concentrations of VOCs in the silty clay soils at 8' bg. However, the concentrations of VOCs are significantly higher in the sandy soils at 20' bg in OU-1. Results were submitted to the DTSC by BEII in a Report of Findings dated January 10, 2001 with laboratory reports (BEII Report of Findings dated January 10, 2001).

On November 30, 2000, Blaine Tech Services, Inc. (Blaine) was contracted to perform groundwater sampling at the site. Groundwater monitoring wells MW-4 and MW-6 identified were not sampled due to the presence of free product. These wells were installed to monitor a perched groundwater body to the north. Free product was identified in MW-1 during sample collection, upon completion of well purging. The potentiometric groundwater level was above the well screen. Groundwater purging lowered the potentiometric level below the screened interval, allowing free product to enter. Groundwater sample analysis identified thirteen constituents of concern (COCs) in the dissolved phase as VOCs only. Laboratory analysis of metals and SVOCs identified concentrations below allowable levels for those constituents. Results were submitted by BEII to the DTSC in a Report of Findings dated January 10, 2001 with laboratory reports.

The remaining USTs have been excavated or slurry filled for closure under the supervision of the Santa Fe Springs fire Department. A report was be submitted to the DTSC upon completion by EREMCO.

BEII performed a soil gas survey on the ACC site from January 14 to January 17, 2002. The purpose of the soil gas survey was to determine the lateral extent of VOC soil vapors in the vadose zone along the eastern, northern, and southern property line of the site (OU-1 an OU-2). In addition, BEII performed a SGS on June 13, 2002 on the Air Liquide property to determine the lateral extent of VOC soil vapors in the vadose zone north of the ACC facility (OU-1). Based on the soil gas survey results, BEII identified relatively low level concentrations of VOCs in the silty clay soils at 5' bg, 7'bg, 8' bg, 10' bg, and 12' bg (See Table 1 through Table 3 for soil gas results). However, the concentrations of VOCs are significantly higher in the sandy soils at 20' bg, which are more permeable and conducive to soil vapor migration. Furthermore, VOC soil gas concentrations were higher along the southern property line (OU-2) than along the east and north property line. Results were submitted by BEII to the DTSC in a Report of Findings dated October 15, 2002 with laboratory reports.

BEII advanced two soil borings (BSB-1 and BSB-2) and installed two groundwater monitoring wells (MW-8 and MW-9) on the ACC site from June 5 to June 7, 2002. The purpose of the drilling was to help define the lateral and vertical extent of impacted soil along the eastern ACC property line and to help determine the extent of impacted groundwater. Soil borings BSB-1 and BSB-2 were advanced to 50' bg and 30' bg, respectively. Monitoring wells MW-8 and MW-9 were installed to 40.5' bg and 45.5' bg, respectively. Soil sample results identified only four VOCs in the upper clay layer from 0' to approximately 20' bg. Total VOC soil concentrations averaged 56.66 µg/kg in the upper clay zone. Soil sample results identified elevated VOC concentrations in sand

with lower to no detectable concentrations in the underlying clay layer. The average total VOC soil concentrations were 53,125  $\mu$ g/kg in the permeable sand layer. The underlying clay layer identified an average total VOC soil concentration of 408  $\mu$ g/kg. Results were submitted by BEII to the DTSC in a Report of Findings dated October 15, 2002 with laboratory reports.

BEII advanced eight soil borings (BSB-3 through BSB-10) from 40' bg to 45' bg in August 2002 to help determine the extent of impacted soil. Laboratory results were submitted by BEII to the DTSC.

In November and December of 2002, BEII advanced seven borings (BSB-11 through BSB-17) and installed twelve monitoring wells (MW-10 through MW-21) to help define the extent of VOC impacted soil and groundwater. Monitoring well MW-1 was abandoned. Laboratory results were submitted by BEII to the DTSC.

In late June of 2003, BEII installed five monitoring wells (MW-22 through MW-26) to help define the extent of VOC impacted soil and groundwater. Monitoring wells MW-2, MW-3, and MW-7 were abandoned. Laboratory results were submitted by BEII to the DTSC.

#### 3.0) REGIONAL GEOLOGY/HYDROGEOLOGY

The site is located near the northern boundary of the Santa Fe Springs Plain within the Los Angeles Coastal Plain at an elevation of approximately 150 feet above mean sea level. Surficial sediments consist of fluvial deposits composed of inter-bedded gravel, sand, silt, and clay. Available data from California Water Resources Bulletin No. 104 (June 1961) indicate that the surficial sediments may be Holocene and/or part of the upper Pleistocene Lakewood Formation, which ranges from 40 to 50 feet thick beneath the site. The Lakewood Formation has lateral lithologic changes with discontinuous permeable zones that vary in particle size. Stratified deposits of sand, silty sand, silt, and fine gravel comprising the upper portion of the lower Pleistocene San Pedro Formation underlies the Lakewood Formation.

The site lies within the Central Basin Pressure area, a division of the Central Ground Water Basin, which extends over most of the Coastal Plain. The Gasper aquifer, a part of the basal coarse unit of Holocene deposits, is found within old channels of the San Gabriel and other rivers. The Gasper aquifer may be 40-feet in thickness, with its base at a depth of about 80 to 100-feet bg. The underlying Gage aquifer is found within the Pleistocene Lakewood Formation. The Hollydale aquifer is the uppermost regional aquifer in the Pleistocene San Pedro Formation. Bulletin 104 indicates that this aquifer averages approximately 30-feet in thickness in this area, with its top at a depth of about 70 feet bg. The major water producing aquifers in the region are the Lynwood aquifer located approximately 200-feet bg, the Silverado aquifer located at approximately 275-feet bg, and the Sunnyside aquifer located at approximately 600-feet bg.

#### 4.0) SITE GEOLOGY/HYDROGEOLOGY

SCS identified silty clays with some minor amounts of silt and sand in the shallow subsurface from surface grade to approximately 15' bg. Below the silty clay, poorly sorted coarse-grained sand and gravel from 15' bg to 26' bg. SCS referenced a less permeable silty clay layer between 35' and 50' bg, which contained stringers of fine sand and silt that is part of the Gaspur/Hollydale aquifer.

A perched aquifer was encountered at approximately 23' bg by SCS and referenced as such by SCS. Based on a review of McKesson files, Harding Lawson Associates (HLA) stated that in January 1975 prior to McKesson operating their neighboring facility, no groundwater was encountered to a depth of 45' bg beneath the McKesson property. In March 1986, during operation of the neighboring McKesson facility, groundwater was encountered at 22' bg beneath the McKesson property as stated by HLA. Based on the HLA statements, BEII concludes with SCS that the first encountered groundwater is part of a shallow perched aquifer. The sediments within this perched aquifer appear to be consistent with the Gasper Aquifer. Monitoring wells MW-4, MW-6, MW-8, MW-9, MW-10, MW-11, MW-12, MW-16, MW-18, MW-19, MW-22, and MW-26 will be noted as Gasper monitoring wells with groundwater at approximately 32' bg. The water identified in monitoring well MW-4 at 26.41' bg is more than likely residual groundwater contained in the well sump and will not be incorporated in the gradient.

SCS also referenced that the Gaspur/Hollydale Aquifer was encountered at 20' to 35' bg beneath the site. Further review of Bulletin 104 by BEII and DTSC, identified that the SCS referenced Gaspur/Hollydale Aquifer was in fact the Gage/Hollydale Aquifer. Monitoring wells MW-13, MW-14, MW-15, MW-17, MW-20, MW-21, MW-23, MW-24, and MW-25 will be noted as Gage/Hollydale monitoring wells since they are screened in that deeper groundwater which is now at approximately 40' bg.

The groundwater gradient flowed historically to the southwest as identified by SCS. In December 2003, the shallow groundwater was identified at depths between 33.71' bg to 42.73' bg beneath the site. The potentiometric groundwater flow direction of this shallow zone (Gasper Aquifer) is away from the high point (MW-10) with a hydraulic gradient of 0.04 ft/ft to the north and 0.02 to 0.13 ft/ft to the south (See Figure 3). Groundwater in the deeper Gage/Hollydale was identified at depths between 42.65' bg to 47.35' bg beneath the site. The potentiometric groundwater flow in the Gage/Hollydale Aquifer is to the west-southwest direction with a hydraulic gradient of 0.009 ft/ft (See Figure 4).

#### 5.0) GROUNDWATER MONITORING PROTOCOL

The purpose of the proposed groundwater monitoring was to provide data regarding the piezometric surface, water quality, and the presence of free product (FP), if any on a quarterly basis to the DTSC. Groundwater monitoring consisted of such

activities as water level measurement, well sounding for detection of FP, collection of groundwater samples, field analysis, laboratory analysis, and reporting. The proposed work was performed as follows:

The depth to groundwater was measured in each well using a decontaminated water level indicator capable of measuring to with 1/100th of a foot. Prior to and following collection of measurements from each well, the portions of the water level indicator entering groundwater were decontaminated using a 3-stage decontamination procedure consisting of a potable wash with water containing Liquinox soap followed by a double purified water rinse. The depth to water was measured in all monitoring wells before any wells were purged. Wells were measured in the order of least contaminated to the most contaminated based on past analysis. For the ACC wells, the following order of wells was followed: MW-23, MW-24, MW-25, MW-17, MW-20, MW-15, MW-14, MW-12, MW-13, MW-21, MW-9, MW-16, MW-22, MW-18, MW-11, MW-26, MW-10, MW-8, MW-6, MW-19, and MW-4.

The well box and casing were opened carefully to preclude debris or dirt from falling into the open casing. Once the well cap was removed, the water level indicator was lowered into the well until a consistent tone was registered. Several soundings were repeated to verify the measured depth to groundwater. The depth of groundwater was measured from a reference point marked on the lip of each well casing. A licensed surveyor has surveyed the elevation of each reference point. The result was recorded on the field sampling log for each well. Other relevant information such as physical condition of the well, presence of hydrocarbon odors, etc. was also recorded as appropriate on the field sampling log.

The well sounder used for this project was equipped to measure free product (FP) layers thicker than 0.1 inches. FP was indicated as light non-aqueous phase liquid (LNAPL) or dense non-aqueous phase liquid (DNAPL).

Groundwater purging was conducted immediately following the collection of a groundwater depth measurement from all monitoring wells. Groundwater samples were analyzed for the following constituents (new wells for TPH-gas and VOCs only):

- Volatile organic compounds (VOCs) using EPA Method 8260B to include all Tentatively Identified Compounds (TICs).
- Total Petroleum Hydrocarbons as gasoline (TPH-gas) using EPA Method 8015 modified.
- Total dissolved solids (TDS) using EPA Method 160.1.
- Nitrates, chloride, sulfate, sulfide, ferrous iron, and manganese using EPA Methods 352.1, 325.3, 375.4, 376.1, 7380, and 7460, respectively.
- Alkalinity, carbonates, and bicarbonates using EPA Methods 310.1 and Standard Method 4500.
- Total organic carbon (TOC) and dissolved organic carbon (DOC) using EPA Method 415.1.

#### 5.1) Well Purging and Measurement of Field Parameters

Wells were purged in the above mentioned order (see Section 5.0) to minimize the potential for cross contamination. The wells were purged by Blaine Tech Services, Inc (Blaine) and sampled by BEII from December 9 through 11, 2003 in the presence of Mr. Sanford Britt of the DTSC. Diffusion bags were removed on December 15, 2003. The purge protocol was presented in the Field Sampling Plan as Appendix A in the Groundwater Monitoring Work Plan dated October 23, 2001 and submitted to the DTSC.

Prior to purging, casing volumes was calculated based on total well depth, standing water level, and casing diameter. One casing volume was calculated as:

$$V = \pi (d/2)^2 h \times 7.48$$

where:

V is the volume of one well casing of water (in gallons,  $1 \text{ ft}^3 = 7.48 \text{ gallon}$ );

d is the inner diameter of the well casing (in feet); and h is the total depth of water in the well - the depth to water level (in feet).

A minimum of three casing volumes of water was purged from each well. Water was collected into a measured bucket to record the purge volume. All purged groundwater was containerized in 55-gallon hazardous waste drum for disposal at a later date.

After each well casing volume was purged; water temperature, pH, specific conductance (EC), and turbidity were measured using field test meters and the measurements were recorded on Well Monitoring Data Sheets (See Appendix A). Samples were collected after these parameters have stabilized; indicating that representative formation water has entered the well. The temperature, pH, and specific conductance should not vary by more than 10 percent from reading to reading. Turbidity should be less then 5 NTUs, however, the purging process stirred up silty material in each well which made the turbidity measurements of 5 NTUs unattainable. Groundwater samples were collected after water levels recharged to 80 percent of the static water column. Notations of water quality including color, clarity, odors, sediment, etc. were also noted in the data sheets.

All field meters were calibrated according to manufacturers' guidelines and specifications before and after each day of field use. Field meter probes were decontaminated before and after use at each well. The pH, conductivity, and temperature were measured with a Myron-L Ultra Meter and turbidity was measured with a HF Scientific DRT-15C meter. The calibration standards used

for pH were 4 and 7 with expiration dates of February 2004. Conductivity was calibrated to a 3900 µs standard with an expiration date of February 2004. A 0.02 NTU standard was used to calibrate the turbidity with an expiration date of February 2004.

#### 5.2) Well Sampling

Groundwater samples were collected by lowering a separate disposable bailer into each well. Groundwater was transferred from the bailer directly into the appropriate sample containers with preservative, if required, chilled, and processed for shipment to the laboratory. When transferring samples, care was taken not to touch the bailer-emptying device to the sample containers. Diffusion bags were used to collect water samples from MW-23, MW-24, and MW-25 at 1.5-feet and 7.5-feet below measured groundwater. Water samples were transported to Southland Technical Services, Inc., a certified laboratory by the California Department of Health Services (Cert. #1986) to perform the requested analysis.

Groundwater samples were collected from monitoring wells MW-23, MW-24, MW-25, MW-14, MW-17, MW-20, MW-15, MW-21, MW-13, MW-12, MW-9, MW-16, MW-26, MW-18, MW-11, MW-10 only. Monitoring wells MW-4, MW-6, MW-8, MW-16, and MW-19 identified FP as LNAPL at a thickness of 0.04', 0.08', 0.66', 0.77' and 4.65', respectively. The FP thickness in MW-6 is assumed based on the depth of the well bottom since no water was identified in the well.

Vials for VOC and TPH analysis were filled first to minimize aeration of groundwater collected in the bailer. The laboratory provided vials containing sufficient HCl preservative to lower the pH to less than 2. The vials were filled directly from the bottom-emptying device. The vial was capped with a cap containing a Teflon septum. Blind duplicate samples for the laboratory were labeled as "MW-1" and "MW-2" and were collected from monitoring wells MW-14 and MW-21, respectively. All vials were inverted and tapped to check for bubbles to insure zero headspace.

New nitrile gloves were worn during by sampling personnel for each well to prevent cross contamination of the samples. A solvent free label was affixed to each sample container/vial denoting the well identification, date and time of sampling, and an identifying code to distinguish each individual bottle.

#### 5.3) Sample Handling

VOA vials, including laboratory trip blanks, were placed inside of one new Ziplock bag per well and stored in a cooler chilled to approximately 4°C with bagged ice. Water samples were logged on the chain-of-custody forms

immediately following sampling of each well to insure proper tracking through analysis to the laboratory.

#### 5.4) Waste Management

FP, purged groundwater, and decontamination water were stored in sealed 55-gallon drums for a period not to exceed 90 days. Stored wastes will be profiled for hazardous constituents and characterized as Non-Hazardous, California Hazardous, or RCRA Hazardous, as appropriate. Any transportation of waste will be under appropriate manifest.

#### 6.0) FREE PRODUCT

Monitoring wells MW-4, MW-6, MW-8, MW-16, and MW-19 identified FP as LNAPL at a thickness of 0.04-feet, 0.08-feet, 0.66-feet, 0.77-feet, and 4.65-feet, respectively. A total of 2.75 gallons of FP was recovered from MW-4 and MW-6, 12 gallons of FP was recovered from MW-8, 0.5 gallons was recovered from MW-16, and 2 gallons of FP was recovered from MW-19 to date.

Laboratory analysis of the FP was performed in June 2002 and identified dissolved TPH-gas at 812,000 mg/L from MW-6 and 801,000 mg/L from MW-8. Concentrations of dissolved TPH as diesel were also identified in FP as 53,400 mg/L from MW-6 and 56,600 mg/L from MW-8. No detectable concentrations of TPH as motor oil were identified in FP collected from both wells. Previous laboratory analysis of FP collected from monitoring well MW-6 identified 1,1,1-TCA at 28,100 mg/L, 1,2,4-Trimethylbenzene at 22,100 mg/L, Xylenes at 10,370 mg/L, Toluene at 9,010 mg/L, 1,3,5-Trimethylbenzene at 5,400 mg/L, and Ethylbenzene at 4,320 mg/L.

FP from MW-16 and MW-19 was collected and analyzed this quarter for TPH using EPA method 8015. Monitoring well MW-16 contained FP in the gasoline range  $(C_4-C_{12})$  as 455,000 mg/L and FP in the diesel range  $(C_{13}-C_{23})$  as 101,000 mg/L. Monitoring well MW-19 contained FP in the gasoline range  $(C_4-C_{12})$  as 425,000 mg/L and FP in the diesel range  $(C_{13}-C_{23})$  as 58,700 mg/L.

#### 7.0) GROUNDWATER SAMPLE RESULTS

Groundwater samples collected from the shallow zone (Gasper) monitoring wells MW-9, MW-10, MW-11, MW-12, MW-16, and MW-18 in December 2003 contained TPH-gas ranging from 77,200 µg/L in MW-10 to 1,280 µg/L in MW-9. Monitoring wells MW-22 and MW-26 contained an insufficient volume of water to retrieve a sample. Laboratory results are included as Appendix B. Dissolved TPH-gas concentrations averaged 35,194 µg/L in the shallow Gasper Aquifer, an increase from the 29,706 µg/L average identified in September 2003. The largest increase in TPH-gas was identified in MW-11 from 30,200 µg/L (September 2003) to 51,500 µg/L (December 2003). See Table 1 and Figure 5 for dissolved TPH-gas concentrations.

Groundwater samples collected from the deeper zone (Gage/Hollydale) monitoring wells MW-13, MW-14, MW-15, MW-17, MW-20, MW-21, MW-23, MW-24, and MW-25 in December 2003 contained TPH-gas ranging from 2,140 µg/L in MW-21 to non-detect (<50 µg/L) in MW-17. The concentrations of dissolved TPH-gas averaged 774 µg/L in the deeper Gage/Hollydale Aquifer, an increase from the 185 µg/L average identified in September 2003. The increase in average TPH-gas was the exclusion of MW-23, MW-24, and MW-25 from TPH-gas analysis, which previously were non-detect and included in the average. See Table 1 and Figure 6 for dissolved TPH-gas concentrations.

Concentrations of dissolved BTEX ranged between 19,632  $\mu$ g/L in MW-10 to <5.1  $\mu$ g/L in MW-12 from the shallow Gasper Aquifer (See Figure 5 and Table 2). The less than value includes those concentrations reported as Practical Quantitation Limit (PQL), which is defined as the method detection limit multiplied by the dilution factor (See Appendix B for laboratory results). The average dissolved BTEX concentration in the Gasper from the 2003 fourth quarter sampling was <7,307  $\mu$ g/L, a decrease from <7,860  $\mu$ g/L from the previous sampling episode.

Dissolved BTEX in the deeper Gage/Hollydale Aquifer ranged between <157.9  $\mu$ g/L in MW-21 to <4  $\mu$ g/L in MW-13, MW-14, MW-17, MW-23, MW-24, and MW-25 (See Figure 6 and Table 2). The 2003 fourth quarter sample episode identified an average dissolved BTEX concentration of <26.9  $\mu$ g/L in the Gage /Hollydale, a slight increase from <23  $\mu$ g/L the previous sampling episode.

Groundwater sample results from the shallow Gasper Aquifer identified relatively high VOC concentrations compared to the low VOC concentrations in the deeper Gage/Hollydale Aquifer (See Table 2 and Appendix B for laboratory results).

Concentrations of dissolved PCE were identified at a maximum concentration of <400 µg/L from MW-10 and MW-11 in the shallow Gasper zone. Dissolved TCE was identified at a maximum of 169 µg/L from MW-18 in the Gasper (See Figure 7). The average dissolved PCE and TCE concentrations for the fourth quarter 2003 were <202 µg/L and <195 µg/L, respectively. Maximum concentrations of dissolved PCE and TCE in the Gage/Hollydale were detected as 133 µg/L and 140 µg/L, respectively in groundwater collected from MW-21 (See Figure 8). The fourth quarter average PCE and TCE dissolved concentrations in the deeper Gage/Hollydale zone were <43 µg/L and <37 µg/L, respectively.

Dissolved concentrations of 1,1,1-TCA were identified in the shallow Gasper Aquifer at a maximum of 7,460  $\mu$ g/L in MW-10 (See Figure 7). Monitoring well MW-18 located downgradient of MW-10 identified dissolved 1,1,1-TCA as 420  $\mu$ g/L. The average dissolved 1,1,1-TCA concentration in the Gasper Aquifer was identified as <1,891  $\mu$ g/L this quarter, an increase from <978  $\mu$ g/L identified the previous quarter. The increase in average 1,1,1-TCA was the exclusion of MW-16 and MW-26 (no data),

which previously were included in the average. Lower concentrations of dissolved 1,1,1-TCA were detected in the deeper Gage/Hollydale Aquifer at a maximum of 132  $\mu$ g/L in MW-21 (See Figure 8). Dissolved 1,1,1-TCA was also identified in MW-20 at 81.7  $\mu$ g/L. No significant concentrations of 1,1,1-TCA (above 5  $\mu$ g/L) were detected in all other Gage/Hollydale Aquifer monitoring wells.

Groundwater samples were also analyzed for 1,4-Dioxane, a preservative used in 1,1,1-TCA to prolong its shelf life. However, 1,4-Dioxane is more miscible in groundwater than 1,1,1-TCA and will often lead the dissolved 1,1,1-TCA plume. Gasper monitoring wells MW-10, MW-11, and MW-18 identified dissolved 1,4-Dioxane concentrations between <10,000  $\mu$ g/L and <1,250  $\mu$ g/L due to high dilution factors. Gage/Hollydale monitoring wells MW-13, MW-14, MW-15, MW-17, MW-21, MW-23, MW-24, and MW-25 identified dissolved 1,4-Dioxane concentrations between <1,000  $\mu$ g/L and <100  $\mu$ g/L due to dilution factors.

Concentrations of dissolved chlorinated VOC daughter products were relatively elevated compared to their respective parent VOCs identified above and also showed a trend of higher dissolved concentrations in the shallow Gasper Aquifer compared to the deeper Gage/Hollydale Aquifer.

1,1-DCA is a daughter product from reductive dehalogenation of 1,1,1-TCA and from carbon-carbon double bond reduction of 1,1-DCE, another daughter product. Dissolved 1,1-DCA concentrations were identified between 50  $\mu$ g/L and 53,500  $\mu$ g/L in the Gasper Aquifer (See Figure 7). The greatest dissolved 1,1-DCA concentration was observed in MW-10. The average dissolved 1,1-DCA concentration in the shallow Gasper zone was identified as 21,785  $\mu$ g/L this quarter, an increase since the previous quarter average of 15,145  $\mu$ g/L. Dissolved 1,1-DCA concentrations in the Gage/Hollydale Aquifer ranged between <2  $\mu$ g/L and 2,300  $\mu$ g/L (See Figure 8). Monitoring well MW-21 located along the southwest property boundary contained the highest dissolved 1,1-DCA concentrations in the Gage/Hollydale Aquifer as 2,300  $\mu$ g/L. The second highest dissolved 1,1-DCA concentration identified from MW-15 was only 262  $\mu$ g/L. The average dissolved 1,1-DCA concentration in the Gage/Hollydale Aquifer this quarter was <324  $\mu$ g/L, an increase from the third quarter average (<178  $\mu$ g/L).

Dissolved 1,1-DCE, a daughter product of the dehydrohalogenation of 1,1,1-TCA and reductive dehalogenation of TCE, was identified at concentrations ranging from 7.3  $\mu$ g/L to 4,170  $\mu$ g/L in the shallow Gasper zone (See Figure 7). The maximum dissolved 1,1-DCE concentration was observed in MW-18. The next largest dissolved 1,1-DCE concentration was identified as 2,750  $\mu$ g/L in groundwater collected from MW-10. The average dissolved 1,1-DCE concentration in the Gasper Aquifer this quarter was 1,756  $\mu$ g/L, a decrease from the previous average of 2,396  $\mu$ g/L in September 2003. Dissolved 1,1-DCE concentrations in the Gage/Hollydale Aquifer ranged between <2  $\mu$ g/L and 1,960  $\mu$ g/L (See Figure 8). Gage/Hollydale monitoring well MW-21 located along the southwest property boundary contained the maximum dissolved 1,1-DCE concentration

(1,960  $\mu$ g/L). The average dissolved 1,1-DCE concentration in the Gage/Hollydale Aquifer this quarter was <328  $\mu$ g/L.

Cis-1,2 DCE is also a daughter product of the dehydrohalogenation of 1,1,1-TCA and reductive dehalogenation of TCE. Concentrations of dissolved cis-1,2-DCE were identified between 8  $\mu$ g/L and 15,900  $\mu$ g/L in the Gasper Aquifer (See Figure 7). The greatest dissolved cis-1,2-DCE concentration was observed in MW-18. The average dissolved cis-1,2-DCE concentration in the Gasper Aquifer this quarter was <6,711  $\mu$ g/L, an increase from the third quarter average of <5,132  $\mu$ g/L. Dissolved cis-1,2-DCE concentrations in the Gage/Hollydale Aquifer ranged between <2  $\mu$ g/L and up to a maximum of 4,400  $\mu$ g/L identified from MW-21 (See Figure 8). Gage/Hollydale monitoring well MW-15 contained the second largest dissolved 1,1-DCE concentration of 1,570  $\mu$ g/L. The average dissolved cis-1,2-DCE concentration in the Gage/Hollydale Aquifer this quarter was <682  $\mu$ g/L, an increase from the previous quarterly average of <331  $\mu$ g/L.

Vinyl chloride (VC) is a by-product from the dehydrohalogenation and reductive dehalogenation of the chlorinated VOC daughter products mentioned above. Similar to the other VOCs, concentrations of dissolved VC were at lower concentrations in the deeper Gage/Hollydale than in the shallow Gasper zone. Dissolved VC concentrations were identified between  $5.2~\mu g/L$  and  $3,700~\mu g/L$  in the shallow Gasper zone (See Figure 7). Monitoring well MW-10 contained the largest dissolved VC concentration in the Gasper. However, dissolved VC concentrations in the Gage/Hollydale ranged from <2  $\mu g/L$  to  $134~\mu g/L$  (See Figure 8). The maximum dissolved VC concentration was located along the southwest property line in monitoring well MW-15.

Maximum dissolved concentrations of acetone and MEK were identified in Gasper monitoring well MW-18 as 32,400  $\mu$ g/L and 23,700  $\mu$ g/L, respectively (See Figure 9). Groundwater collected from MW-10 also identified elevated concentrations of dissolved acetone as 19,200  $\mu$ g/L and dissolved MEK as 4,080  $\mu$ g/L. Average concentrations of dissolved acetone and MEK in the Gasper Aquifer this quarter were 21,262  $\mu$ g/L and 15,252  $\mu$ g/L, respectively. No detectable concentrations of acetone or MEK were identified above method detection limit from the 2003 fourth quarter groundwater monitoring episode in the Gage/Hollydale Aquifers (See Figure 10). However, the detection limits were <100  $\mu$ g/L in some samples due to dilution factors.

Dissolved methylene chloride concentrations were identified below 400  $\mu$ g/L in MW-10 and MW-11 from the shallow Gasper zone (See Figure 9). Methylene chloride was <40  $\mu$ g/L in MW-21 and <5 in the remaining Gage/Hollydale Aquifer monitoring wells sampled (See Figure 10). No detectable concentrations of dissolved methylene chloride were identified. The detection limits for dissolved methylene chloride were high in some samples (<400  $\mu$ g/L) due to the high dilution factors.

Most groundwater samples were also analyzed for biodegradation indicators (See Table 3 for laboratory results). Further comparative data needs to be acquired prior to evaluating biodegradation processes. Subsequent groundwater analysis will include these biodegradation indicators.

#### 8.0) CONCLUSIONS

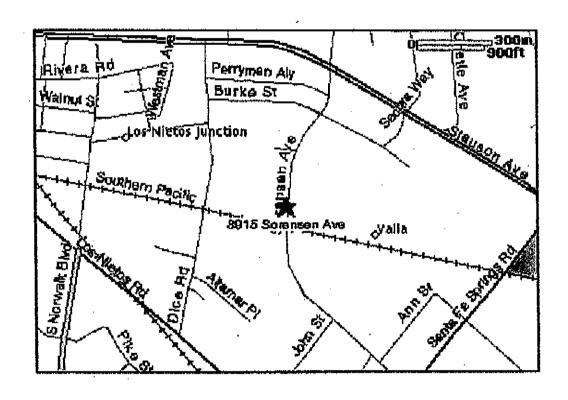
Based on the recent groundwater sample results, BEII concludes that the site is impacted by dissolved VOCs in both the Gasper and Gage/Hollydale Aquifers. Dissolved VOC concentrations, however, were detected at higher concentrations in the shallow Gasper zone compared to the Gage/Hollydale Aquifer. Monitoring wells Gasper monitoring wells located next to MW-10, MW-11, and MW-18 contained elevated dissolved VOC concentrations. Gage/Hollydale monitoring wells located along the southern property boundary contained the maximum dissolved VOC concentrations in that aquifer.

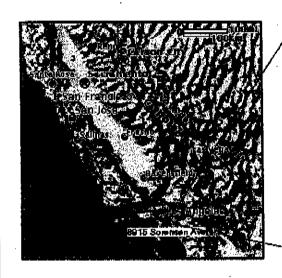
BEII also concludes that the recent groundwater sampling data provides preliminary support that the site has potential for intrinsic biodegradation. Dissolved parent VOC (PCE and TCE) concentrations were identified at concentrations < 800 µg/L. 1,1,1-TCA was the only parent VOC that was identified at greater than 4,500 µg/L exclusively in MW-10. Daughter VOC constituents such as 1,1-DCA, 1,1-DCE, cis-1,2-DCE, and VC identified dissolved concentrations of up to 53,500 µg/L. The low parent VOC concentration to high daughter VOC concentration ratio is a preliminary indicator of intrinsic biodegradation. However, further groundwater monitoring is needed to determine whether intrinsic biodegradation is occurring.

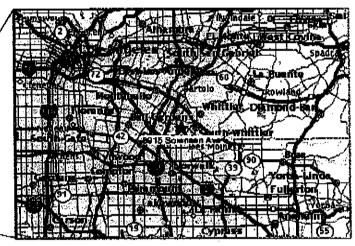
#### 9.0) RECOMMENDATIONS

BEII recommends that quarterly groundwater monitoring for VOCs and TPH-gas be continued at the former ACC property. BEII further recommends that free product removal be performed on a monthly basis to reduce its mass.

Figures





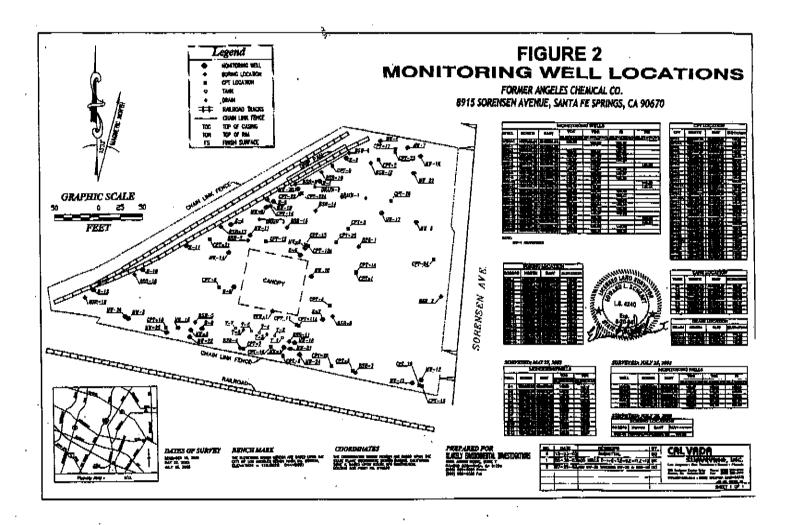


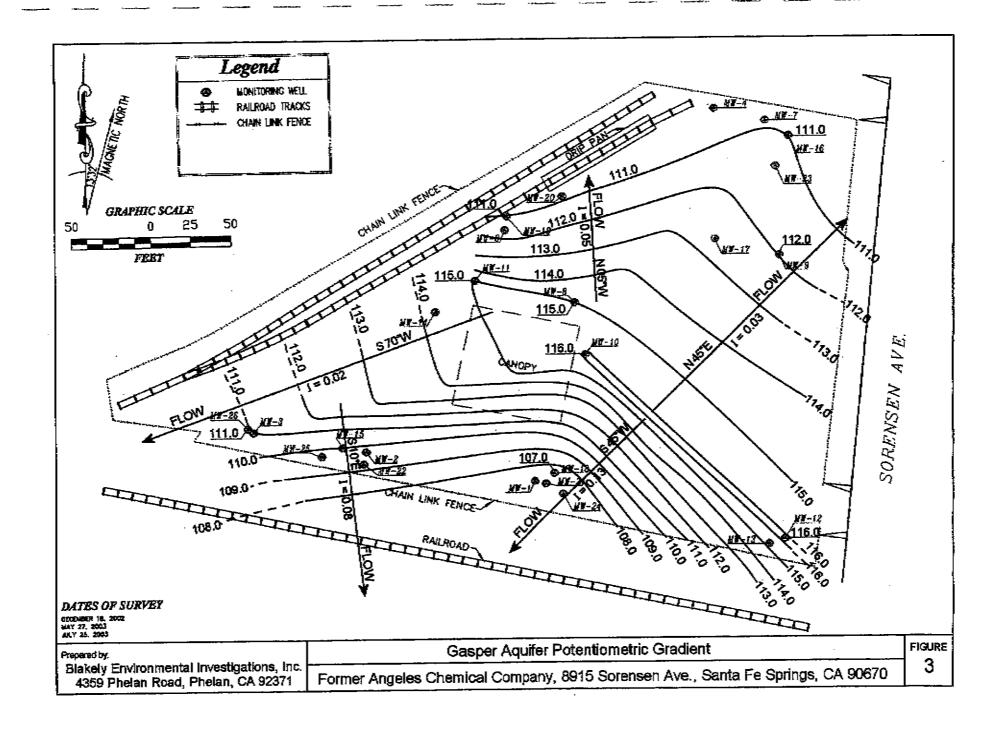
Blakely Environmental
Investigations, Inc.
4359 Phelan Road
Phelan, CA 92371

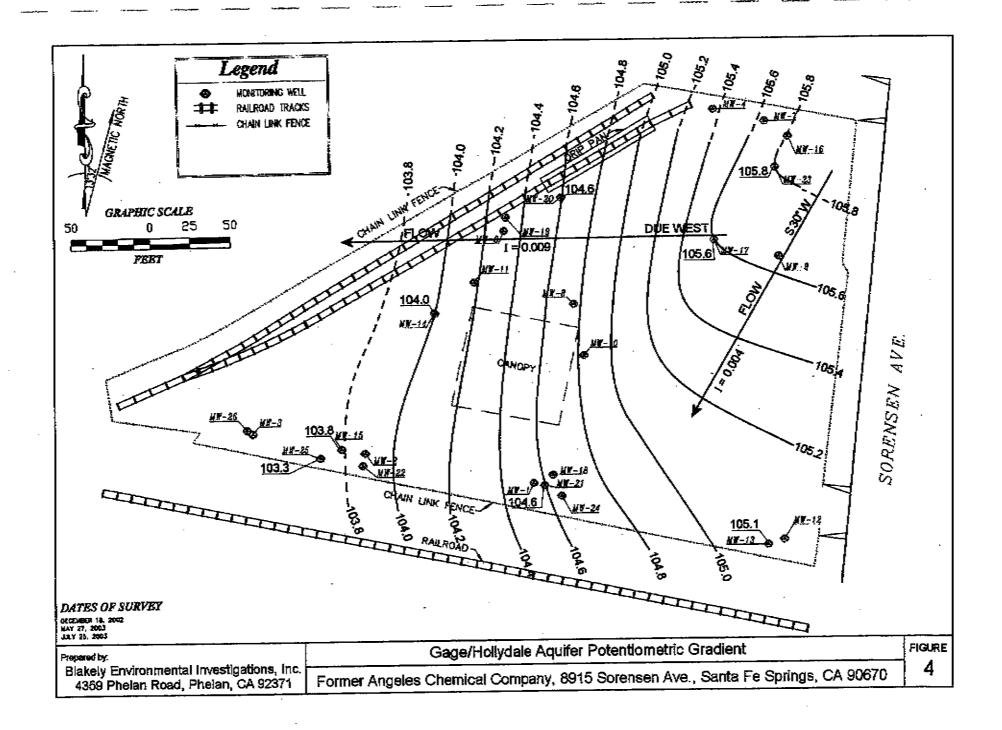
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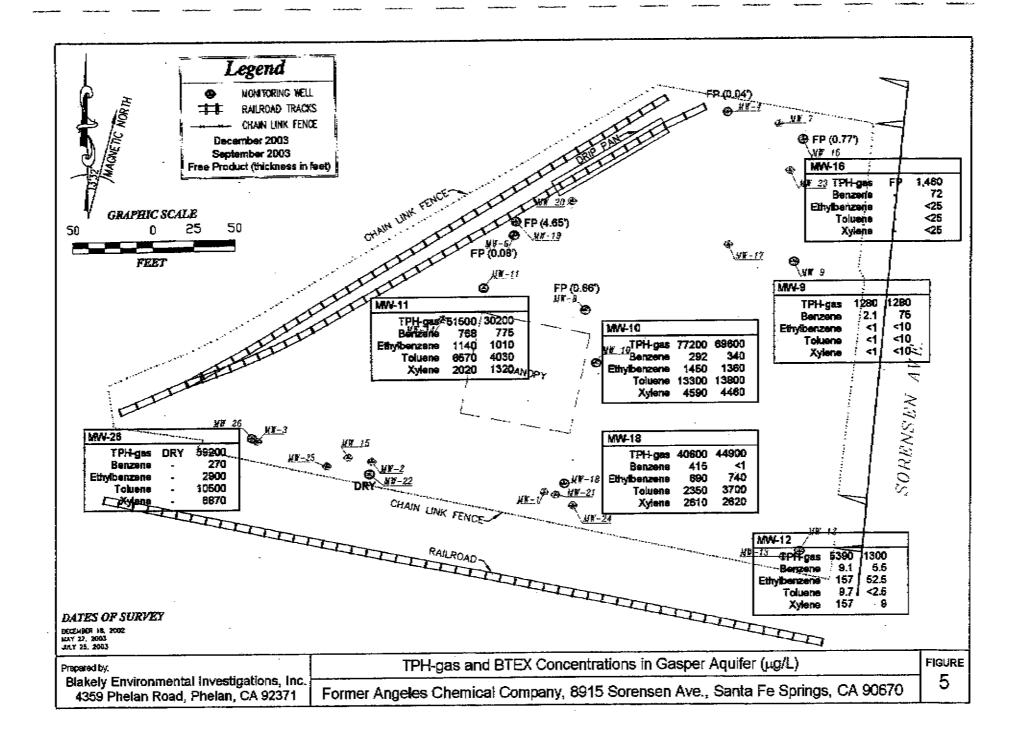
FIGURE

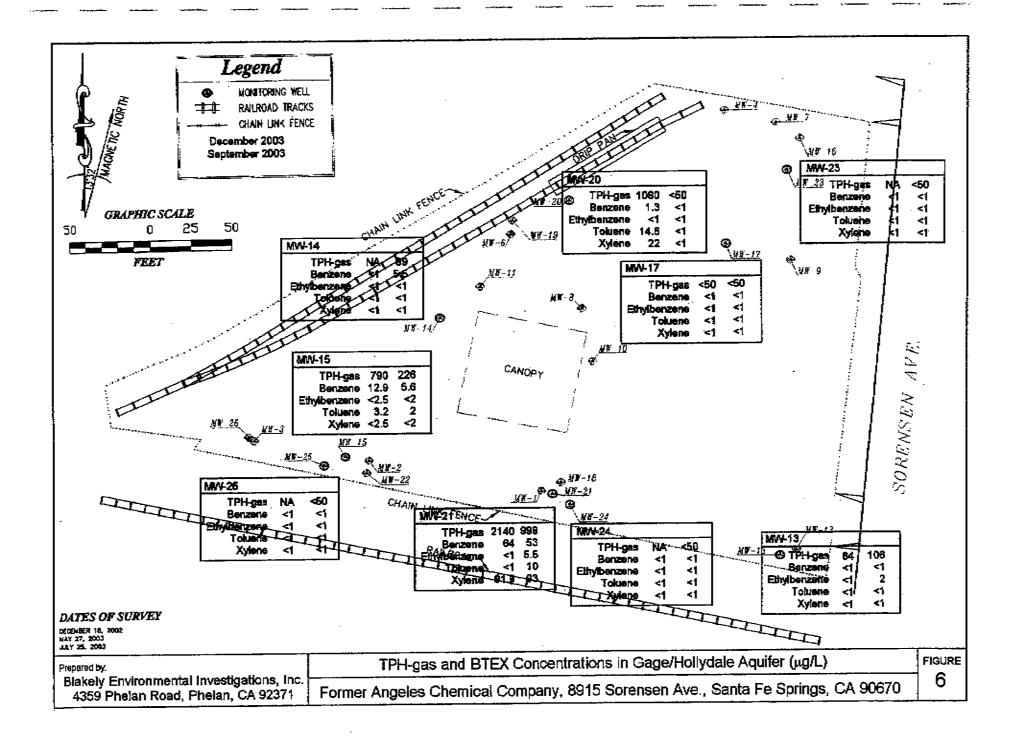
Former Angeles Chemical Company 8915 Sorensen Ave., Santa Fe Springs, CA 90670 1

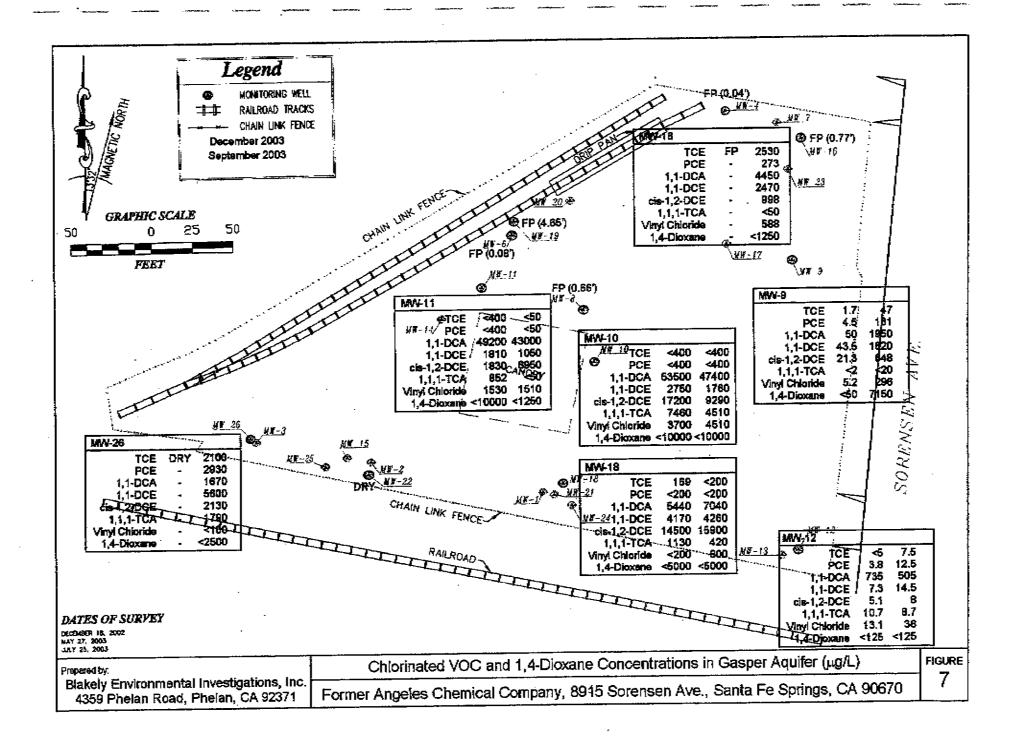


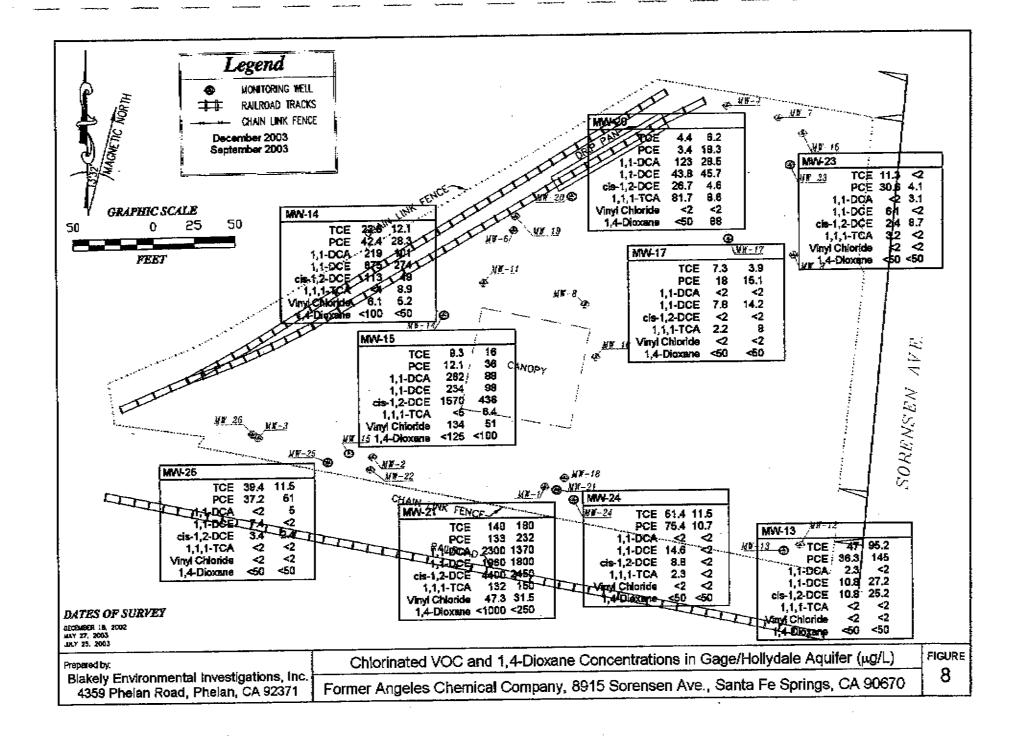


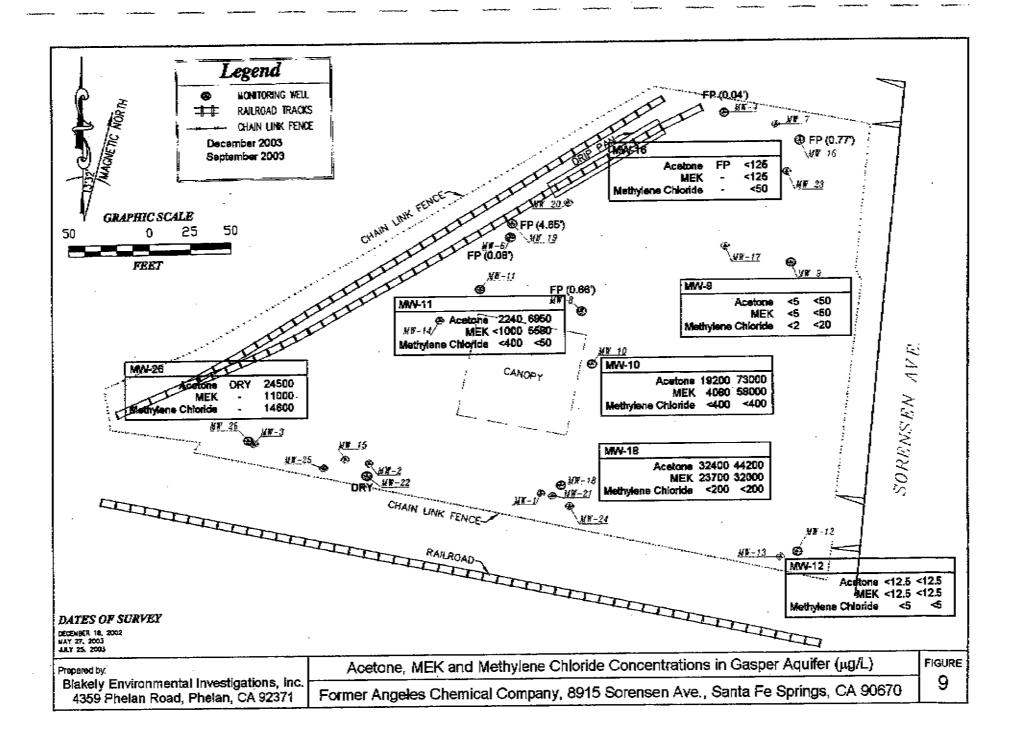


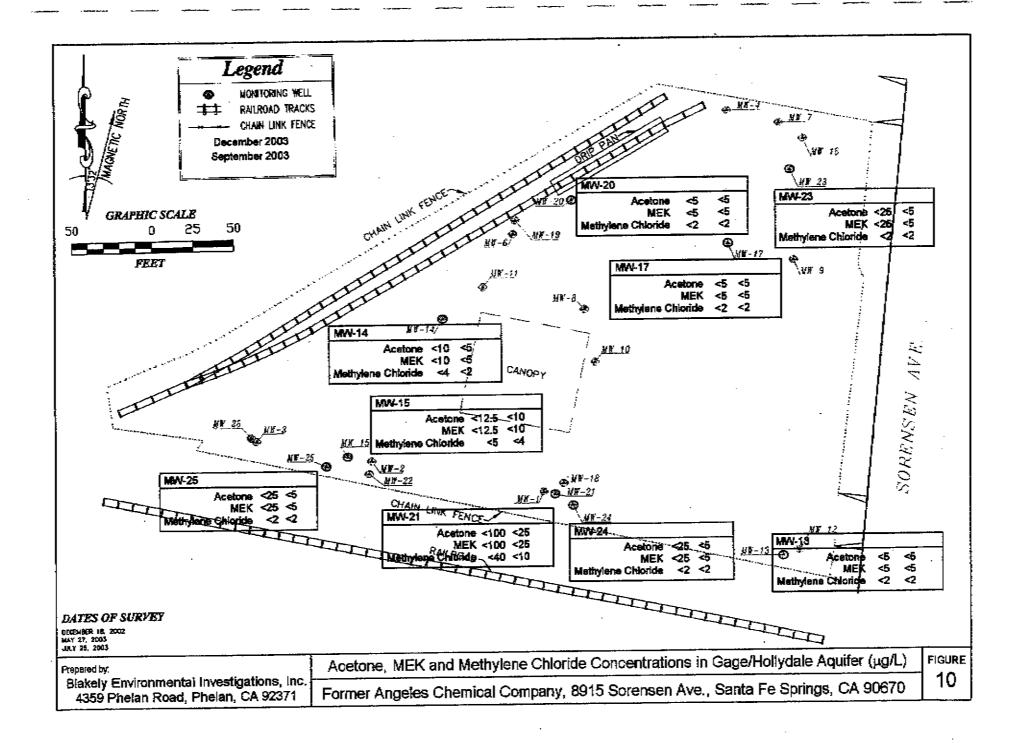












Tables

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	000					/ 28, 100,00 10-7 P				-	<del></del>	+	-	$\vdash$		$\leftarrow$		<del></del>	-	1	_	+	1	+	-	$\leftarrow$
			132	1125	145-77		<u> </u>	NB-PP	-100	-	+	<del></del>	1	<del>                                     </del>	<del>                                     </del>	1		<del>                                     </del>	-	-	†	1		t -	-	-
		100			177			NA IP		_	_	1	-	<del></del>	1-	1			1						1	$\Box$
		- <del>XX</del>				<b>10.</b> FP	-+126	144.44	32.3	13,600	62.4	24	-6	. 230	40	-250			21,500		<8			1		
		1 170		-800		1857	B	T 14 PP	38	12.100				77.6	<b>40</b> .	72.6	9.5	686	37,500	-	14					1
	Jun 93	1 74	100	400	NA-FT	- VEAPP	-60		16.0	1.00	<b>4400</b>	"l 10		3,4					101,200		70			42	4	186
			T NA	T 144			NA.	NB-PP	- 20	4,616				0.9	4.4	-80	1 8		TMATE	1 M	<del>  199</del> -	IN IN	1-3	. 3		
	Dec-03	I HA	I NA	NA.	I MALET	1 4 P	MA	144.47	9	7,460	1652	10.7	. 3	44	-45	19-17	1 7.7	1,180	N9-₽	107	142	T MARKAN		1.00	1	1-44

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	a voca k	कार क्षेत्र	NAME OF TAXABLE	Tames.	17.0	ing JPA.M	Open Alb	O (MEAL)																		
VOGa			M04			. W44 1,326		·MW-9	MW-9	MM-19	MW-11	MW-12	MW-13	10/4/14	MW-16	MW-16	MW-17	MW-12	HW-11	NW-20	MMH	MARK	MW-23	MW-84	WW-36	M
arite de la companya	Feb 44	7,180	4500	1,750	14,300	1,320	40	-																		
			-36-			73,000	-000		_	<del></del>						-		_							<u> </u>	₩
	1.50	20	23		NATE	- 10-77	4.8			-					-									<del>  -</del>		-
	Wp-02				14.77			NoP													•					
	0440		- 30	- 24	14.0	***	4100	機構		-1 555	-44	-18	-	_	-	487	_		-							
	1	- 102	-466	188	135	<b>11.1</b>	-30		39	100	360	- 18	77.3	88	83.5	774	- 54 -	- 277	<del>-171</del>	-24-	31.7	<u> </u>	_	_	_	⊢
	Arr-05	_	16	_ <b>500</b> .	North	N8-FP	<b>450</b>	NO.PP	41,9	-400		-10	77.7	4	10.		_0.0	170	<b>3,00</b>	18	95	-200	2.3	2.9	20.4	14
	8ep-03		NA.		NA-NW		NA.	NO.PP	47	T-490		7.)			3	魏	7.0		No.PP		100	NB-NW	-2	2.8	- 8	Εź
	Dec-03	M	WA.	NA.	N=#	N#-PP	NA	No. ex		-400	-40x	45	_47 .	22,0	9.3	N8-FP	7,3	150	NA.PP	4,4	140 "	MA-AW	Yelle	TRON	Teble 3	N
ومويرسطان الفدا	704-01	4.160	18.6	-146	TWOOD	99 18 CM	366	—	-	-	<b>-</b>	_	_		_					-		<b>├</b> ──		-	_	⊬
	15.0	2,00	251	. 500	No.FF	No-T	234			<del>                                     </del>						_			-			<del>                                     </del>		_	_	⊢
	1	3,850	-600	918	140.77	44.77	730	##	-4105																	1
	Dec-02			2	14.77		327	MATE.	-28	-34 max	2,120			276	ļ	480		-1		1	ļ					Г
·			380					Water			2,000		45	30	-20	256	33A	340	369	-3-	<b>7</b> 8	ļ		-	<del></del>	₽
	100-04		200.		NA.A		160		-30		7,400			<del>-2-</del>	-3-	-80-	-3-	2,070	1,040	11.5		- 250	-2	-22	-43	١.
	20p-03		MA			145.07		NA PP	20	148		110	7		ľ	- 4	-4	1.00	No.FP	4	20.5	NO NA	-6	- 2	- 43	_
	Dec-03	NA.	NA.	<u> </u>	Here	144.00	<u>                                     </u>	WEST.	-76	1,646	1,682	498	2_	4	ľ	No. PP	4	1,010	MBJFF	80.1	440	MH-NW	***	Telegra	Table 1	N
Marin Target	- व्यक्त	-775	100	146	NEC-PAY	6.460.000	- 26			_	_	$\vdash$	_	<del></del>	-	$\vdash$					—	_		├─	<del></del>	┿
			57,6				46.6		<del>!                                    </del>	<del>                                     </del>	_	<del>                                     </del>		1					-	-		-	-	_		۰
			77.7		Mar Ph			NI-P						·										-		$^{\perp}$
			7.				3.50		- 35			-					•		-							Ļ
	500-03	- NA	-280 -1,000	4500	NO-FF	48.PP	350	No.FP	- 3	404		788	- 4	- 100			-3-	-31-	380	-3-	*	_	-	<b>├</b>	ļ	₽
	Jun-08							1	-20	348	-23-	<del> -? ,'</del> -	-3	- 2"		780	-3-	709	1,630	-3-	-	-20	-2		-0	t
			NA.	L NA	MARKET	WP-FP_	NA _	NB-FP	<20	320		142	- 4	-2	44	450	q	400	No. PE	4	-10	AND NW	-4	-4	- 3	1
	Dee-09	NA	*	NA.	N# PP	MG-PF	WA	NoP	-20	413	500		- 4	14	-	1	k	480	14.77	13.4	7	48-74	100	T-16-1	123.3	ĬN
Toluene	Pak Ad	AAA	7 100	876 "	140 900	18300	-904			-	-	_	$\vdash$	-			_							_	-	+
1 4 4 4 4 4	1400.00	4,000	177	1765	1837	1877	<del>- 55</del> 6-		_	-	<del>                                     </del>	-	_	<del></del>								_	-	<del> </del>	+	╆
	0954	2,470	28	5 (86	THE NW	9 040 000	976							_										_	_	t
	-			1400	TM-D		140																			Ι
	300	3110	102	1777	HAR-			160-77	- 20															_		1
			-26-	<del> -75}}-</del>	100	NE PP		MA FF		10,500	1966	36 F	45	3 840	-12.4	-460	-	1785	13,600	****	-87	· ····		_	_	+
	Mar-03	NA.	-300	2,510	14.	NA PP	994	NA PP	"-#-	12,000	T-3.150-	1-148	1	210	410	- 24		4,070	11,400		-		-	_	1-	+
	Jun-co	NA.	+100	2,040		_N-	7.5	14 P		10,005	4,650	-	्न_	f	Ļ	<b>-26</b>	_ <b>=</b>	450	13,300	.7.2	न	=10	41	-	-21	Ι
	Sec 031	₩.	100		144W	100-17	<u> </u>	機構		13,600	4,030	25	न		2	438	-	3,700			10	Na-NAV	45	41		Ľ
			- Marc	· ***	MOHT:	NEHT	Pi/A	40-14	41	14,490	0.070	. 47			.3.2	Man-Lab.	4	2,000	Ne-PP.	74,0	*	Lam-MA	1 81 97 3	Table 3	1000	۳
	100			-	NE NA	45,000	186	<u> </u>		1				_	_					_	_	_		-	_	+
nA Chlaride	Dec 03	1,350	75	-40						<u> </u>	·····										Ĺ		· ·	1		İ
nyl Chloride	0at-01 P40-02	1,350	73 107	100	1147	78.4	417								•											
	Cet-Cri Feb-02 Jan-02	1,380 1,080 +100	-200	- 48		HALFP.	10	W-7	-40					_	_											4
	Cost Of Path-02	1,350 1,060 +100	107 - 300 - 718	3			410 684	世界	123	4 400	-	- 4 4704	-#5		***	ALLA.		-2900	-1 000°		58.1					t
nd Charles	0 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		107 200 2710 2720			海神	684 423	W-7	22	4.100		1,100	- 13	-66	<del>77.</del>	588	44	4200	-1,000 630	-8	28.1 22.0	-				ŧ
	5 E 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2	100 100 100 100 100 100 100 100 100 100	2718 2718 2718 1640 4,500	1778		100 PF 100 PF 100 PF 100 PF	### ### ###		123 107	141	1.18	1,100	-	3	77.0	- 47	જ	BE	41,000	-3	337	- M. a	-	-		
	5 E 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2	100 100 100 100 100 100 100 100 100 100	2718 2718 2718 1640 4,500	1778		海神	温器		123 107	4.100 9.490 9.410 1.410 3.700	- 18		-	3	**	565 347 364 168-7	幓		+1,000 +1,000	1	31.4	I NO-W	न्द	-2	- a	

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Table & (cont.): Detecto	4 VOO	1040 B40		مرضور	وبالاعما	ang (PAN	died 63	رايون) 60 (سوال)						· ·						_	· · ·	į.				
												_														
VQG∎	Date	NW-1	1991-1	WY-1.	WW-4	- MI	MW-7	MW-F	MW-4	1445/10	MW-11	1004-12	MW-13	1004-14	MW-48	MN-14	WW-17	MA L	W	MW-ix	100-31	100 TO	¥	MW-26	HW-24	707-51
XVIII			7,740		437.3	4.710	1 46																			
	New-00		<500	2,500	NS-FP	No.+	247	L																		
	04401	2,770	-0	1720	HE NW	10,370,000	301																			
	- A-42	1,740	14.	3.070	HEFF	NA PP	240					į														
	100,00	5,240	_142_	3,000	LW-P	10.4	104	NATE.	-40											Γ						
	On 02	3,570	70	2,570	_ No.PP	_45-55_	470	I NATE	<u></u>					L												
	Dec-02	ž	356	2,100		NB PP	121	MAFF.	-	4,680	744	242	ī	760	-40	-60	Ę	2,600	ğ	¥	Ą					
	Mar 03	WA	316	2,100	44.7	No.44	918	NB-FT	_=10	2,380	1620	22.1	٧	100	40_	60_	ď	3	2	-2	8.4					
	Jun 03		170	1,760	N# PP	NA PP	224	No.PF	410	1.4000	1.89		-11	41	2.5	-25	-	3,050	8,040	4.3	-11	<10	Ť	-41	41	440
Ĺ	Quy (1)		<u> </u>	l NA	IN-NW	NA-PP	NA.	Max P	<10	1,440	171370		1 41	41		-05	-41	3,430	No. PP			MI W		-41	-4	1.472
	Dec-03	NA.	NA.	344	TAREST.	10-17	NA.	NH-FP	41	4,900	7,020	167	41	-9	-2.5	Na PP	-1	2.610	NA-FP	72	91.0	NE-WV	T 100 3	Tabb B	Jun J.	WAR
				-			-	_	_	—			_	—						—						
NA-Not Applicat.		<u>.                                    </u>			1		-		-			<del>  </del>				Ь—								—	<u> </u>	_
NS-PT- Not Remotes Pr	er Circles	i pyromi			—				<del> </del>			_													<del></del>	<del></del>
MR-MAN Had Balliber IV		· *		—	_					_										₩					<b></b>	_
- Abandaned Well.					<u> </u>	<u> </u>	J			ļ	1	1					<u> </u>									
" - Anniyala of Press Prod				_																						_
Mus- Chemisch etored																										
Red-Transformation co-	Marie de .	7		1							1															

	Date	Depth	MW-23	MW-24	MW-25	
creened Interval (bg)		# TF-111	71'-81'	67'-77'	71'-81'	
						' '
DTW	15-Dec-03		42.65'	45.69'	47.35'	
VOCs						
Acetone	15-Dec-03	1.5'	<25	<25	<25	
		7.5'	<25	<25	<25	
Benzene	15-Dec-03	1.5'	<1	<1	<1	
DOUTGUE	10-560-00	7.5'	<1	<1	<1	
44514	45.00		-06	-05	-05	
2-Butanone (MEK)	15-Dec-03	1.5'	<25	<25 <25	<25 <25	
		7.5'	<25	<25	<del>- 23</del>	<u> </u>
Chioroethane	15-Dec-03	1,5'	<2	<2	<2	
		7.5'	<2	<2	<2	
1,1-Dichloroethane	15-Dec-03	1.5'	<2	<2	<2	
1,1-Diction occurren	10 000 00	7.5'	<2	<2	<2	
4.6.52.51	45 0 00	4.51				
1,2-Dichloroethane	15 Dec-03	1.5' 7.5'	<2 <2	<2	<2 <2	
		7.5		~~	<del>  ``</del>	
1,1-Dichloroethene	15-Dec-03	1.5'	6,1	<2	6.2	
		7,5'	6	14.6	7.4	
cls 1,2-Dichloroethene	15-Dec-03	1.5'	<2	5.7	<2	
CB 1,2-Dichlorocalche	13-Dec-03	7.5'	2.4	8.8	3.4	
trans 1,2-Dichloroethene	15-Dec-03	1.5'	<2	<2	Α.	
		7.5'	<2	<2	<2	
1,4 Dioxane	15-Dec-03	1.5'	<50	<50	<50	
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		7.5'	<50	<50	<50	
	15-Dec-03	1.5'	<1	<1	<1	
Ethylbenzene	13-060-03	7.5'	<1	<1	<1	
Methylene Chloride	15-Dec-03	1,5' 7.5'	- <del>2</del>	<2 <2	< <u>2</u>	1
	-	/.5	<del>  ``</del>	<del></del>		
4-Methyl-2-pentanone	15-Dec-03	1.5'	<25	<25	<25	
		7.5'	<25	<25	<25	
Naphthalene	15-Dec-03	1.5'		<2.	2	<del>                                     </del>
		7.5'	<2	<2	<2	
41		╂	<del>                                     </del>	<u> </u>		<del>                                     </del>

.

	Date	Depth	MW-23	MW-24	MW-25	
VOCs	Date	LOSSING.	11114-20	MITT-Z-T		
n-Propytoenzene	15-Dec-03	1.5'	<2	. <2	<2	
n-riopyselizene	10-060-03	7.5'	<del></del>	√2	<2	
			••••	"		
Tetrachloroethene	15-Dec-03	1.5'	14.8	24.3	37.2	
		7.5'	30.6	75.4	37.1	
,1,1-Trichloroethane	15-Dec-03	1.5'	2.6	<2	<2	
1,		7.5'	3.2	2.3	<2	
	45.5 - 00	4 27	7.0	49.3	39,4	
Trichloroethene	15-Dec-03	1.5' 7.5'	7.9 11.3	51.4	38.5	
2,4-Trimethylbenzene	15-Dec-03	1.5'	<2	<2	<2 <2 <2 <	
		7.5'	<2	<2	<del>&lt;2</del>	-
3,5-Trimethylbenzene	15-Dec-03	1.5'	<2	<2	<2	
	"	7,5'	<2	<2	<2	
Toluene	15-Dec-03	1.5'	<1	<1	<1	
		7.5'	<1	<1	<1	
Vinyl Chloride	15-Dec-03	1.5'	<2	.<2	-2	
Variyi Olilorido		7.5'	<2	<2	<2	:
Vidence	15-Dec-03	1.5'	<1	<1	<1	
Xylenes	10-060-03	7.5	<1	<1	<1	
	"		<u> </u>			
N= Depth to Water.		<u> </u>		<u> </u>	1	
oth= Depth below measure= Chemicals stored on-		7,		<u> </u>	<del>- </del>	

								₹.													
able 4. Results for SPA I	Methods 5	76.1, 528.	3, 310,1, 2	62.1, 378.	7300,74	44, 100,1	Colorien	my and b	tendard M	uthod 490	tmg/Lj	1	1 .		1			1		ŗ	
Compound	-	LANL 3	MOV 4	MW-7	MAN A	LA LOCAL	HAP11	1944.40	-	MW-14	MANA K	MW-16	MW-17	MW-11	NW-12	MYY-20	MW-X	MW-32	MW-44	MW-25	MW-26
Dissolved Organic Carbon	Dec-03	NA.	NA.	_ NA	12	194	100	3	1.5	2.5		NA NA	5.9	100	NA.	2.2	3.4	- NA	- NA	- NA	NA.
																				1.2	
Total Organic Carbon	Dec-03	NA	NA	M	13	74.	108	3,7	1.0	3.1	2.6	NA	12	110	, NA	2.5	9.7	ŅĄ	NA.	, NA	NA.
TDB	Jug-03	1,100	1,220	1,550	3,640	1,970	2,250	659	1,200	1,450	1,520	1,000	1,400	1,720	4,500	1,280	1 245	-	-		<del></del>
	640-03	NA.	NA.	NA	1,600	2,330	1,990	735	1,185	1.205	1,195	1.656	1.675	1,668	- NA	1,235	1,246	630	<del>  γγ</del> ;=-	876	1,460
	Dec-03	NA	NÃ	NA	1,280	1,840	1,490	730	1,160	1.140		NA.	1,170	1,830	- NA	200	1,116	NA.	THE T	TIX.	NA.
Total Alkalinity	Jun-02	480	840	896	525	935	DBC	790	430	433	456	606	460	1,026	1,426	426	472				
	Sep 03	NA.	NA.	4	545	650	166	408	473	370	449	600	475	965	NA.	433	460	225	255	350	670
_	Dec-03	NA.	NA	NA.	_549_	880		340	494	380	405	NA.	430	920	NA.	470	680	NA	NA	NA.	NA.
Carbonata/blearbonata	ون ورنقا	552	766	1.080	612	1,122	1,152	348	816	510	844	726	\$42	1,250	1,710	#10	567	<del>                                     </del>	-	-	-
	840 03	- NA	NA.	NA.	684	804	1,170	489	507	444	607	720	570	1,146	NA.	519	552	282	306	420	604
···	Dec-03	NA	NA	NA.	324	633	847	204	261	210	279	NA .	256	88.2	NA.	287	318	NA	NA.	NA.	NA
								-										,			
Chloride	Jun-03	99.3	727	294	241	383	476	79.0	101	92.2	06	227	140.4	264	1,190	47.1	57.3				L
	540-03	NA.	NA	NA.	241	510	141	. 57	90	142	104	2000	170	294	NA.	92	142	71	7.5		526
	Dec-03	, NA	NA.	NA.	234	362	344	74.4	108	160	113	NA.	100	00.3	NA.	99.3	126	NA.	NA	NA	NA_
<b>TUTIO</b>	Jun-03	<0.02	1.8	0.54	40.02	0.8	3.55	-0.63	40.02	-0.02	-6.62	-40,62	40.02	0.48	1.82	-0.02	<0.02	· · · ·	<del>                                     </del>	<del>                                     </del>	<del>!                                    </del>
	Bep-03	MA	NA.	NA.	-00.05	5.12	2.6	6.66	-0.03	-0.05	-0.05		-0.05	1,82	NA	40.08	40.06	<0.05	40.05	<0.06	15.6
	D40-03	NA	NA.	NA.	<b>~0.03</b>	-0.08	-0.05	40.05	-0.08	~0.08	40.05	T NA	-0,08	-0.05	NA.	40,62	40,08	NA	NA.	NA	NA.
Gulfate.	Jan-03	63.2	32.6	18	254	5.67	7.9	108	214	162	379	104	206	26.3	8.74	176	182				
	Sep-03	NA.	NA.	NA.	250	98	28	0.5	230	202	286	20	216	85	NA.	215	230	118	184	210	500
<del></del>	Dec-03	NA_	NA.	_NA_	763	19.3	16	47	633	390	247	_NA_	387	82.6	NA.	501	287	ŅA	NA.	NA.	NA.
Nivite	Jun-03	22.6	40.01	1.18	18.4	1,05	4.61	40.01	27.6	26.1	29.7	2.67	27.5	2.62	0.77	34.3	23.5	+	+	+	<del></del> -
111,-111	Bep-03	NA.	NA.	NA.	0.138	40.01	40,01	0.01	0.027			40.01	40.01	40.01	NA	5.17	0.019	0.177	-10.01	-0.01	40,01
	Dec-05	NA.	NA	TNA T	25,5	8.21	3,70	1,10	174	20.9	42	NA.	20.3	1:14	- NA	21.4	22.8	NA	NA.	NA.	NA.
				L															1		
Total Iron	Atn-03	₹0.1	0.2	1	=0.1	0.2	10.7	0.10	0.14	<0.1	0.2	<b>=0.1</b>	0.43	0.0	0.0	0,22	en,f	1			+
	\$sp-03	NA.	NA	NA.	<0.06	62.3	18.7	0.41	40.05		=0.08	=0.05	0.25	14.4	NA.	10,05				-0.06	0.44
	Dec-03	NA.	NA.	NA	0,36	31.7	30.6	1.85	0,18	0.14	0.25	NA.	0.35	63.1	NA	.034	1.2	NA_	100	ŅĀ,	NA.
Patrous Iron	Jun-08	<0.06	₹0.65	-40.05	-0.06	-40,06	D.49	+0.05	-0.08	40,86	40,06	=0.05	<0.06	<0.08	<0.06	40.08	₹0.05	+	+	<del></del>	· • · · · · · · · · · · · · · · · · · ·
	840-08	NA.	NA.	NA	-0.08	3.2	5,00	3.85	40.06	0.03	3.68			4.56	FP	40.05	40.00	-0.04	-40,06	-10.05	10,05
	Dec-08	HAX.	<u> </u>	<u> </u>	0.10	1.43	2.32		0.16	0.25	0.21	TAX.		1,89	NA.	Q.14	0.17	NA.	- NA	NA	N/A
			J			1	1		1		<u> </u>										
Manganese	V0-03	-0.1	2.1	0.67	₹0.1	1.44	6.7	1.6	=0.1	=0.1	0.4	0.6	4.	0.84	177	<b>40.1</b>	0.45				<del></del>
	Sep-03	NA.	NA.	NA.	0.07	8.24	12.5	2.49	88.0	0.42	0.4	1.00	<0.06	1 7	NA.	0.12	- 4	+0.05		0.09	5.21
	Dec-03	, NA	NA.	- NA	0.16	8.1	13.8	1.47	0.22	1.02	1.14	NA.	0.23	8.04	NA.	0,12	1,96	- NA	7	- NA	NA

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# Appendices

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#### WELL GAUGING DATA

Project # 03/209-ZM/ Date 12/9/03 Client Blakely Env.

Site 8915 Sorensen Ave Sorta Fe Springs

Well ID	Well Size (in.)	Sheen / Odor	Depth to Immiscible Liquid (ft.)		Volume of Immiscibles Removed (ml)	Depth to water	Depth to well bottom (ft.)	Survey Point: TOB or TOC)	
MW-4	4		26.35	0.04		26.39			
MW-6	4	odor	<b>る</b> の.ゴ/	0.08			30.29		
MW-8	4		33.89	0.66		<b>3#.</b> 55.			
MW-9	Ч	,				36.96	45.81		
MW-10	4					33.71	40.62		
MW-11	<u>م</u>					<b>3</b> 3.73	39.85		
MW-12	J				q ,	34.30	46.06		
MW-13	2_					4512	62.47		
MW-14	<u>၃</u>		<i>.</i>		-	46.72	65.19		
MW-15	<u>a</u>			_		46.84	64.64		
MW-16	<u></u> ၃		3608	דרים		36.85			
MW-17	2					43.47	66.47		
MW-18	2	,			•	42.73	46.17		
MW-19	2	,	34.00	4.65		38.65			
MW-20	2		• 			44.53	67.60		
MW-21	<u>ə</u>	-		,		45.44	63.25		
MW-33	7	_				Pry	40.15		,

#### WELL GAUGING DATA

Project # 03/2-09-ZMI Date	12/9/03	Client Blakely Eav.
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Site 8915 Sorensen Ave Santa Fe Springs

Well ID	Well Size (in.)	Sheen / Odor	Thickness of Immiscible Liquid (ft.)	Volume of Immiscibles Removed (ml)	Depth to water	Depth to well bottom (ft.)	Survey Point: TOB	
MW-23	4				42.65			
MW-24					45.69	· <b></b>		
MW-25	4				47.35	<u> </u>		
i :					39.60	39.75	1	
	<u> </u>							
			,					_
	• •		"			,		
				,	_			
	,							
			_					
								-

_												
1	Project#: _	31209	-ZN	1/	Client: Blakely Env							
		2M				12/9	. /					
7	Well I.D.:	MW-4			Well D	iameter	2 3	<b>4</b> ) 6	5 8			
ļ .	Fotal Well I	Depth (TD)	):		Depth	to Wate	r (DTW):	26.	39			
]	Depth to Fre	e Product	: a6	.35	Thickness of Free Product (feet): 0.04							
]	Referenced	to:	æVO	Grade	D.O. Meter (if req'd): YSI HACH							
<u>.</u>	DTW with 8	0% Recha	rge [(H	eight of Water	Column	x 0.20	) + DTW]:					
Purge Method: Bailer Waterra Sampling Method: Bailer Disposable Bailer Peristaltic Disposable Bailer Positive Air Displacement Extraction Pump Electric Submersible Other Dedicated Tubing Other:												
} [						Well Diamete	Multiplier 0.04	Well Diam		$\overline{}$		
ļ ,		fals.) X		_ =	_ Gals.	2" 3"	0.16 0.37	6" Other	0.65 1.47 radius <sup>2</sup> * 0.163			
į į	1 Case Volume	Specia	ied Volum	nes Calculated Vo	lume		1		18004 - 0.163			
!	,	Temp		Cond.	Turl	oidity				·		
۱	Time	(°F or °C)	pН	(mS or µS)	(1/1)	rus)	Gals. Remo	ved	Observations			
			514	détected	w/ int-	er Face	probe	<u> </u>				
	A											
ì			$N_{c}$	Semple	taker							
}				. '								
ı	Ť		]			.•						
,	Did well de	water?	Yes	No	Gallon	s actuall	y evacuated	1:				
	Sampling I	ate:	· · · · · · · · · · · · · · · · · · ·	Sampling Tim	e:	. ,	Depth to V	Vater:				
1	Sample I.D				Labora	tory:		$\sim$				
}	Analyzed fo	от: трн-G	BIEX	MTBE TPH-D	Oxygen	nes (5)	Other:					
	EB I.D. (if	applicable)	<u>):                                    </u>	@ Teme	Duplic	ate I.D.	(if applicab	le):				
1	Analyzed fo	or: TPH-G	BTEX	MTDE TPH-D	Oxygen	ates (5)	Other:					
-	D.O. (if req	(b'): P	re-purge:		mg/L	P	ost-purge.			mg/L		
J	O.R.P. (if r	eq'd): P	re-purge:		mV	Ţ	'ost-purge:			mV		

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Project #: 03/209 - ZMI	Client: Blakely Env							
Sampler: ZM	Date: 12/9/03							
Well I.D.: MW-G	Well Diameter: 2 3 4 6 8							
Total Well Depth (TD): 30.29	Depth to Water (DTW):							
Depth to Free Product: 30.21	Thickness of Free Product (feet): つ・08							
Referenced to: TVO Grade I	D.O. Meter (if req'd): YSI HACH							
DTW with 80% Recharge [(Height of Water C	Column x 0.20) + DTW]:							
Purge Method: Bailer P Disposable Bailer P Positive Air Displacement Extraction Electric Submersible Other	Waterra Sampling Method: Bailer eristaltic Disposable Bailer en Pump Extraction Port Dedicated Tubing Other:  Well Diameter Multiplier Well Diameter Multiplier							
	1" 0.04 4" 0.65							
(Gals.) X Case Volume Specified Volumes Calculated Volumes	Gais.							
Temp Cond. Time (°F or °C) pH (mS or µS)  SPH detected w	Turbidity (NTUs) Gals. Removed Observations  / interface probe							
No sample +	a Ken							
Did well dewater? Yes No	Gallons actually evacuated:							
Sampling Date: Sampling Time	Depth to Water:							
Sample I.D.	Laboratory:							
	Oxygenates (5) Other:							
EB I.D. (if applicable). @ Time ]	Duplicate I.D. (if applicable):							
Analyzed for: TPH-G BTEX MTBE TPH-D (	Oxygenates (5) Other:							
D.O. (if req'd): Pre-purge:	Post-purge: mg/L							
O.R.P. (if req'd): Pre-purge:	mV Post-purge: mV							

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Project #: 03/209 - ZMI	Client: Blakely Env								
l -	Date: /2/9/03								
Well I.D.: MW-8	Well Diameter: 2 3 4 6 8								
Total Well Depth (TD): 💈 ———	Depth to Water (DTW): 34.55								
Depth to Free Product: 33.89	Thickness of Free Product (feet): 0.66								
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH								
DTW with 80% Recharge [(Height of Water	Column x 0.20) + DTW]:								
	Waterra Sampling Method: Bailer Peristaltic Disposable Bailer ion Pump Dedicated Tubing Other:								
15	Well Diameter Multiplier Well Diameter Multiplier 1 0.04 4" 0.65								
(Gals.) X = Calculated Vol	Gals. 2" 0.16 6" 1.47								
Temp Cond. Time (°F or °C) pH (mS or μS)	Turbidity (NTUs) Gals. Removed Observations								
- 5PH detected	ay interface probe								
No sample	taken								
Did well dewater? Yes No	Gallons actually evacuated:								
Sampling Date: Sampling Time	: Depth to Water:								
Sample I.D.:									
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:									
EB I.D. (if applicable):	Duplicate I.D. (if applicable):								
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other:								
D.O. (if req'd): Pre-purge:	mg/L Post-purge: mg/L								
O.R.P. (if req'd): Pre-purge:	mV Post-purge: mV								

Project#: C	31209	-2M	17	Client: Blakely Env								
Sampler:	2M			Date: /	2/9	03						
Well I.D.:	MW-	9 .		Well Di	ameter	2 3 4	68_					
Total Well I	epth (TD)	). <u>4</u>	2-81	Depth to Water (DTW): 36.96 (36.96)								
Depth to Fre	e Product:	•		Thickness of Free Product (feet):								
Referenced	to:	<b>WE</b>	Grade	D.O. Meter (if req'd): (3) 556 HACH								
DTW with 8	0% Recha	rge [(H	eight of Water	r Column x 0.20) + DTW]: 39.73								
	Bailer Disposable Ba Positive Air D Electric Subm	Sampling Method: Other:	CDisposi Extrac Dedicat	ailer sole Bader ction Port ted Tubing								
Start @	0942	<u>~ 172</u>	<b>U</b> •	<u></u>	Vell_Diamete ] "	0.04 4*	0.65					
	$\frac{5.7}{1 \text{ Case Volume}} \xrightarrow{\text{(Gals.)}} X \xrightarrow{3} = \frac{17.1}{\text{Calculated Volume}} \xrightarrow{\text{Gals.}} 2^{\circ} \xrightarrow{0.16} 6^{\circ} \xrightarrow{1.47} \text{Other}$ $\frac{3^{\circ}}{3^{\circ}} \xrightarrow{0.37} \text{Other} \xrightarrow{\text{radius}^{2} * 0.163}$											
Time	Temp Cond. Turbidity											
0948	229	67	2568		<b>2</b>	6	0.15 0.15	-2.0				
0950	22.9	6-8	2574		5	12	0-11	-46				
4959		se ll	dewatered	æ	16	ag/		01.43.90				
1		,,- <b></b>				)						
1331	69.3	6.9	2585	-	7		<del></del>	160				
Did well de		Yes)	No	Gallons	actual	ly evacuated:	8					
Sampling I	Date: 12/	0/03	Sampling Time	e: /3]	3/	Depth to Wate	r: 37,	,91				
Sample I.E	Sample I.D.: MW-9 Laboratory: STS											
Analyzed f	or: TPH-G	BTEX	мтве трн-д	Oxygena	ites (5)	Other:						
EB I.D. (if	applicable	):	@ Tune	Duplica	ate I.D.	(if applicable):						
Analyzed	Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:											
D.O. (if re	q' <b>d</b> ): P	re-purge:		mg/L	I	ost-purge:		***E/L				
O.R.P. (if	req'd): P	re-purge:	:	$_{ m mV}$	F	Post-purge:	,	mV				

Project #: 03/209 - Z M	71	Client: Blakely Env							
Sampler: ZM		1 .	1/03						
Well I.D.: MW-10		Well Diameter	: 2 3 4	6 8					
Total Well Depth (TD): 4	0.62	Depth to Wate	r (DTW): 33	3.71 (3710/43)					
Depth to Free Product:		Thickness of F	ree Product (fee	et):					
Referenced to:	Grade	D.O. Meter (if req'd): YSI 556 HACH							
DTW with 80% Recharge [(H	eight of Water	Column x 0.20) + DTW]: 35.09							
Purge Method: Bailer Disposable Bailer Positive Air Displaceme Electric Submersible	ot Extrac Other	Waterra Sampling Method: Bailer Peristaltic Disposable Bailer stion Pump Extraction Port Nedi-flo Dedicated Tubing Other:							
Start @ 1257 @ 1 44 (Gals.) x 3	_ <u>=                                   </u>	Well Diames 1" 2" 3"	67 Multiplier Well 1 0.04 4" 0.16 6" 0.37 Other	Diameter Multiplier  0.65 1.47					
1 Case Volume Specified Volum	) \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	radius <sup>2</sup> * 0.163							
Temp Cond. Turbidity Time (°F or C) pH (mS or CS) (NTUs) Gals. Removed Observations									
1300 231 66	2718	5	5	0.19 -54.2					
1303 23-1 6.6	2852	3	10	0.14 -60.9					
1306 233 6.6	3 820	2	14	0.12 -63.0					
		,							
Did well dewater? Yes	<b>6</b>	Gallons actual	ly evacuated:	14					
Sampling Date: 12/10/53	Sampling Tim	e: 1507	Depth to Water	r: 35.55(72hr.)					
Sample I.D.: MW-/0		Laboratory:	STS						
Analyzed for: TPH-G BTEX									
EB I.D. (if applicable):	· @ Time	Duplicate I.D.	(if applicable):						
Analyzed for: TPH-G BTEX	MTBE TPH-D	Oxygenates (5)	Other:						
D.O. (if req'd): Pre-purge			Post-purge:	mg/L					
O.R.P. (if req'd): Pre-purge		mV 1	Post-purge:	mV					

Project	#: <u>C</u>	31209	-ZM	H.	Client: Blakely Env							
Sample	:r:	2M			Date:	12/9	03					
Well I.	D.:	MW-	-		Well D	iameter	<b>○</b> 3 4	6 8 _				
Total V	Vell I	epth (TD	): 13°	9.85	Depth to Water (DTW): 33.73 (73/10/65)							
Depth	to Fre	e Product:			Thickness of Free Product (feet):							
Refere	nced	to:	∕ <b>€</b> VC	Gradė	D.O. Meter (if req'd): (YS) 55% HACH							
DTW	with 8	0% Recha	rge [(He	eight of Water	Column	$\times 0.20$	+DTW]: 3	5.01				
Purge Me		Bailer Disposable Ba Positive Air D Electric Subm	isplacemen crsible	other <u>2"</u>			Sampling Method: Other:	Dispos Extrac Dedicar	ailer able Bailer ction Port ted Tubing			
	Start @ 1024 @ 1 gpm Well Diameter Multiplier Well Diameter Multiplier 1" 0.04 4" 0.65											
1 Case V	<u> </u>	Sals.) X Specif	ラ ned Volum	$ = \frac{\partial - I}{\text{Calculated Vo}} $	_ Gals. lume	2" 3"	0.16 6" 0.37 Other	1.45 radi	7 ius <sup>2</sup> + 0,163			
Tîm	e	Temp (°F or °G)	рН	Cond. (mS or (IS)	Turbidity (NTUs)		Gals. Removed		rvations			
123	25_	234	6.7	2832	19		1	00.	-54.5			
122	26	233	67	2938		11	ュ	000	-67.0			
12	27	23.5	67	3070	-	7_	3	0.15	-73.9			
		* Stron	م دک	or-		. •						
Did w	rell de	water?	Yes ·	<b>€</b>	Gallon	s actuall	y evacuated:	3				
Samp	ling I	Date: 12/	10/03	Sampling Tim	e: /2	37	Depth to Water	r: <u>34.</u> :	39			
Samp	le I.D	.: Mu	V-11		Labora	tory:	STS	· .				
Analy	zed f	or: TPH-G	BTEX	MTBE TPH-D	Oxygena	ates (5)	Other:					
EB I.	D. (if	applicable	):	@ . Timos	Duplic	ate I.D.	(if applicable):					
Anal	zed f	OF: TPH-G	BTEX	MTBE TPH-D	Oxygen		Other:	<del></del>				
D.0.	D.O. (if req'd): Pre-purge: mg/L Post-purge: mg/L											
O.R.J	?, (if r	eg'd): P	re-purge:		mV	F	ost-purge:		mV			

Project#: C	oject #: 03/209 - ZMI Client: Blakely Env										
Sampler:	2M_			Date:	12/9	03					
Well I.D.:	MW-1	2		Well D	iameter	<b>②</b> 3 4	6 8				
Total Well I	Depth (TD)	: 46	-06	Depth to Water (DTW): 34.30 (35.39)							
Depth to Fre	e Product:	4	·	Thickn	ess of F	ree Product (fee	et):				
Referenced	to:	€00	Grade	D.O. M	eter (if	req'd):	<b>Q</b> ₹ 22€	HACH			
DTW with 8	0% Recha	rge [(Ho	eight of Water	Column	x 0.20)	) + DTW]:	3 <i>6-6</i> 5	· · · · · · · · · · · · · · · · · · ·			
,	Bailer Disposable Ba Positive Air D Electric Subm	isplacemen ersible	ot Extract								
Start @	1455	@ 3/4	g pm∖	f	Well Diamete	Other:	Diameter M	ultiplier			
يحسرواا	Fals.) X	ied Volum	<u> </u>	_ Gals.	1* 2" 3"	0.04 4" 0.16 6" 0.37 Other	0 1	.65 .47 adius <sup>2</sup> * 0.163			
Time											
1457	233	7.2	1385	2/	¢00	<u>a_</u>	0.12	-723			
1459	23.5	7.3	1387	,	18	4	0.08	-75.2			
1501	23.6	7.4	/387		19	6	0-10	~73.0			
·											
1					.*		· /				
Did well de	water?	Yes (	N₀)	Gallon	s actuall	y evacuated:	G				
Sampling I	Date: (구/	4/63	Sampling Time	e: (5	11	Depth to Wate	r: 34.	42			
Sample I.D	. MW	-12-	•	Labora	tory:	STS:	*				
Analyzed f	Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:										
EB I.D. (if applicable):  @ Duplicate I.D. (if applicable):											
Analyzed f	Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:										
D.O. (if red	y'd): P	re-purge:		mg/L	F	ost-purge:		<sub>m\$</sub> / <sup>T</sup>			
O.R.P. (if r	eq'd): P	re-purge:		тV	F	ost-purge:		mV			

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Project	#: <u>C</u>	31209	-ZN	1/	Client: Blakely Env							
Sample	r:	2M			Date:	12/9	03					
Well I.I	).:	MW-	13	•	Well D	iameter	<u> 3</u> 3	4 6 8				
Total W	ell I	epth (TD)	: 62	47	Depth to Water (DTW): 45.12 (12/10/05)							
Depth to	o Fre	e Product:			Thickness of Free Product (feet):							
Referen	ced t	:o:	PVQ	Grade	D.O. Meter (if req'd): (S) 556 HACH							
DTW w	rith 8	0% Recha	rge [(H	eight of Water	r Column x 0.20) + DTW]: 48.59							
Purge Meti		Bailer Disposable Ba Positive Air D Electric Subm	isplacemer ersible		Waterra Sampling Method:  Peristaltic cition Pump Ledi - fk  Other:  Bailer  Extraction Port Dedicated Tubing							
Star	Start @ 0904 @ gpm Well Diameter Multiplier Well Diameter Multiplier 1" 0.04 4" 0.65											
2.7 (Gals.) X Specified Volumes Calculated Volume 2" 0.16 6" 1.47  1 Case Volume 3" 0.37 Other radius <sup>2</sup> * 0.163												
Time		Temp (°F or °C)	pH_	Cond. (mS or pS)	Turb (NT	idity Us)	Gals. Remov		bservations			
090	7	22.8	6.9	1950	7/00	× .	3	7. a				
091	Ö	22.9	6.9	1954	857		6	უ. a ?	1			
091	<u>5</u> _	22.9	6.9	_ 1953	543		8.5	3.51	1 -1.1			
·		- !										
· .						• •						
Did we	ell de	water?	Yes	<u>M</u>	Gallons	actuall	y evacuated:	8.5				
Sampli	ing D	ate: 12 /	0/03	Sampling Time	e: <i>09.</i>	21_	Depth to Wa	ater: 4	15. <b>29</b>			
Sample	e I.D.	: MW	13		Labora	tory:	575	•				
Analyz	Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:											
EB I.D. (if applicable): @ Duplicate							(if applicable	<del>:</del> ):	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Analy	zed fo	or: TPH-G	BTEX	MTBE TPH-D	Oxygena	tes (5)	Other:					
D.O. (	D.O. (if req'd): Pre-purge: mg/L Post-purge: mg/L											
O.R.P.	(if r	eq'd): P	re-purge:		mV	Ţ.	ost-purge:		mV			

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Pı	roject#: 🕜	31209	-ZM	1	Client: Blakely Env					
S	ampler: 2	ZM			Date: /2/9/03					
W	Well I.D.: MW-14					ameter:	<b>②</b> 3 4	4	6 8	
T	otal Well I	epth (TD)	: 65.	19	Depth to	Water	(DTW): 4	16-	72/4	13/4/63
D	epth to Fre	e Product:			Thickne	ss of Fr	ee Product (	fee	t):	
R	eferenced t	o:	(PVC)	Gradt	D.O. M	eter (if 1	req'd):		<u> </u>	HACH
D	TW with 8	0% Recha	rge [(He	eight of Water	Column	x 0.20)	+ DTW]:	5	<u> 5.41</u>	
Pı	Purge Method: Bailer Disposable Bailer Positive Air Displacement Extra Electric Submersible Other 2						Sampling Meth	od: her:	Dispos Extra	Bailer Bailer lection Port lited Tubing
,5	fart@	1408 @	- 191	on.		Vell Diamete	r Multiplier V			ltiplier
$\prod$	J.9 (6	ials.) X _3		= 8.7	_Gals.	1" 2" 3"	0.16	+" S" Other	0.6 1.4	_
ı I	Case Volume	Specif	ied Vol <u>um</u>	es Calculated Vo	lume L	<u> </u>	0.57			0.165
	ļ	Temp		Cond.	Thank	:4:4.				
	Time	(For (G)	pН	(mS or (LS))	Turb (NT	•	Gals. Remov	ed	Obs	rvations
<sup>1</sup>  -	1411	22.9	7.	1940	25	74	3		335 335	ORP -68.2
	1414	230	7.1	1964	(	78	6		309	-619
1	1417	230	7.1	1984	. (	65_	9		3-29	-59.4
1					<u> </u>					
1	<u> </u>								•	
1	Did well de	water?	Yes (	No)	Gallons	actuall	y evacuated		9	
	Sampling I	Date: /2/	9/63	Sampling Tim	e: /4	25	Depth to W	ater	: 46	.75
, [	Sample I.D	: MW	-14		Labora	tory: 3	STS .	•	•	
	Analyzed f	or: TPH-G	BTEX	MTBE TPH-D	Oxygena	ites (5)	Other:			
	EB I.D, (if	applicable	): 	@ Time	Duplic	ate I.D.	(if applicabl	e):	MW-1	@ 1435
1	Analyzed f	Or: TPH-G	BTEX	MTBE TPH-D	Oxygena	ites (5)	Other:	··· (		
	D.O. (if ree	g'd): P	re-purge:			F	ost-purge:	_		mg/L
•	O.R.P. (if	req'd): P	re-purge:		mV	Ţ.	ost-purge:			mV'

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Project #: 03/209 - ZMI	Clien	Client: Blakely Env			
Sampler: ZM	Date:	Date: 12/9/03			
Well I.D.: MW-15	Well	Diameter:	<b>②</b> 3 4	6 8	
Total Well Depth (TD): 64.6	رم Deptl	to Water	(DTW): 46.		47.12)
Depth to Free Product:	Thick	ness of Fr	ree Product (fee	et):	
Referenced to:	Grade D.O.	Meter (if 1	req'd):	<b>∑</b> 3 556	НАСН
DTW with 80% Recharge [(Heig	tht of Water Colun	n x 0.20)	+DTW]: 5	0.40	
Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible	Watern Peristration Pum Other Cai-t	C 20 40 40	Sampling Method: . Other:	Extra Dedic	Bailer sable Bailer action Port ated Tubing
Start @ 1317 @ 19p1		Well Diameter	0.04 4"	0.0	
2. Y (Gals.) X 3	= 8 a 4 Gals. Calculated Volume	2" 3"	0.16 6" 0.37 Other	1,4 r rae	47 dius <sup>2</sup> * 0.163
Temp Time (°F or © pH		rbidity ITUs)	Gals. Removed	Obse	ervations
1320 23.3 7.1	1929	31/	. 3	0.0	ORP -140.6
1323 234 7.0	1928	64	6	٥.5٦	-154.6
1326 23.4 7.0	1927	21	9	0.65	-1664
	·				
Did well dewater? Yes No	) Gallo	ns actually	y evacuated:	9	
Sampling Date: 12/9/03 Sa	mpling Time: /3	<u>'35</u>	Depth to Water	r: 47.	39
Sample I.D.: NW-15	Labor	atory:	STS	·	. <u> </u>
Analyzed for: TPH-G BTEX M	· · · · · · · · · · · · · · · · · · ·	nates (5)	Other:		
EB I.D. (if applicable):	@ Dupli	cate I.D. (	if applicable):		
Analyzed for: TPH-G BTEX M		` '	Other:		
D.O. (if req'd): Pre-purge:	mg/	L Po	ost-purge:		mg/L
O.R.P. (if req'd): Pre-purge:	m\	7 Po	ost-purge:		mV

Project #: 03(209 - ZMI	Client: BlaKelv Env			
Sampler: ZM	Date: /2/9/03			
Well I.D.: MW-16	Well Diameter: 3 4 6 8			
Total Well Depth (TD):	Depth to Water (DTW): 36-85			
Depth to Free Product: 36.08	Thickness of Free Product (feet): 0.77			
Referenced to: (PVC) Grade	D.O. Meter (if req'd): YSI HACH			
DTW with 80% Recharge [(Height of Water	r Column x 0.20) + DTW]:			
Purge Method: Bailer Disposable Bailer Positive Air Displacement Extra Electric Submersible Other	Waterra Sampling Method: Bailer Peristaltic Disposable Bailer Extraction Pump Extraction Port Dedicated Tubing Other:			
	Well Diameter Multiplier Well Diameter Multiplier			
(Gals.) X	Gals. 3" 0.04 4" 0.65 2" 0.16 6" 1.47 3" 0.37 Other radius <sup>2</sup> * 0.163			
Temp Cond.  Time (°F or °C) pH (mS or µS)  ———————————————————————————————————	Turbidity (NTUs) Gals. Removed Observations  w/ interface probe			
No simple -	taken —			
Did well dewater? Yes No	Gallons actually evacuated:			
Sampling Date: Sampling Tir	he: Depth to Water:			
Sample I.D.:	Laboratory:			
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other:			
EB I.D. (if applicable):	Duplicate I.D. (if applicable):			
Analyzed for: TPH-G BTEX MTBE TRH-D	Oxygenates (5) Other:			
D.O. (if req'd): Pre-purge:	mg/L Post-purge: mg/L			
O.R.P. (if req'd): Pre-purge:	mV Post-purge: mV			

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Project #: 03/209 - ZMI	Client: Blakely Env				
Sampler: ZM	Date: /2/9/03				
Well I.D.: MW-17	Well Diameter: 2 3 4	6 8			
Total Well Depth (TD): 66.47	Depth to Water (DTW): 4/3,	47 (43.84)			
Depth to Free Product:	Thickness of Free Product (feet	:):			
Referenced to: (V) Grade	D.O. Meter (if req'd):	HACH STERE			
DTW with 80% Recharge [(Height of Water	Column x 0.20) + DTW]:	18.07			
	Waterra Sampling Method: Peristaltic ction Pump Redi-Flo Other:	Bailer <u>Principable Bailer</u> Extraction Port  Dedicated Tubing			
Startellio @ I gpm	Well Diameter Multiplier Well D	iameter Multiplier			
3.6 (Gals.) X 3 - 10.8 1 Case Volume Specified Volumes - Calculated V	Gals. 3" 0.04 4" 2" 0.16 6" 3" 0.37 Other	0.65 1.47 radius <sup>2</sup> * 0.163			
Temp Cond. Time (°F or ©) pH (mS or pS)	Turbidity (NTUs) Gals. Removed	Observations			
1114 23.3 7.1 1984	454 4	20. ORP 3.12 742			
[118 234 71 1981	82 8	3.14 71.7			
1121 23.4 7.1 1981	32 11	3.21 70.5			
	,				
Did well dewater? Yes 🕦	Gallons actually evacuated:				
Sampling Date: 12/9/03 Sampling Tir	ne: //3/ Depth to Water	: 4793			
Sample I.D.: MW-17	Laboratory: STS				
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other:				
EB I.D. (if applicable):	Duplicate I.D. (if applicable):				
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other:				
D.O. (if req'd): Pre-purge:	<sup>mg</sup> /L Post-purge:	<sup>mg</sup> / <sub>L</sub> ,			
O.R.P. (if req'd): Pre-purge:	mV Post-purge:	mV			

Project #: 03/209 - ZMI	Client: Blakely Env				
Sampler: ZM	Date: /2/9/03				
Well I.D.: MW-1-8	Well Diameter: 2 3	4 6 8			
Total Well Depth (TD): 46.17	Depth to Water (DTW):	42.73 (12/10/03)			
Depth to Free Product:	Thickness of Free Produc	t (feet):			
Referenced to: (PVC) Grade	D.O. Meter (if req'd):	(7)\$ 556 HACH			
DTW with 80% Recharge [(Height of Wate	r Column x 0.20) + DTW]:	4341			
Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible  Start 1106  Gals.) X  Calculated Volumes	Waterra Sampling M Peristaltic action Pump  ***Redi - Ho  Well Diameter Multiplier  1" 0.04 2" 0.16 2" 0.16 3" 0.37	Method: Bailer  Extraction Port Dedicated Tubing  Other:  Well Diameter Multiplier  4" 0.65 6" 1.47 Other radius <sup>2</sup> * 0.163			
Temp Cond. Time (°F or °C) pH (mS or pS)	Turbidity (NTUs) Gals. Ren				
1107 237 64 2664	800 .5	0.39 -66-8			
1109 23.9 6.3 2674	237 1.0	0.34 -73.7			
1111 240 6.4 2674	230 (-	5 0.32 -77.9			
* Strong ador					
Did well dewater? Yes No	Gallons actually evacuated: 1.5				
Sampling Date: 12/16/63 Sampling Ti	me: 1125 Depth to	Water: 4.3.4/			
Sample I.D.: MW-18	Laboratory: \$75				
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other:				
EB I.D. (if applicable):  Duplicate I.D. (if applicable):					
Analyzed for: TPH-G BTEX MTBE TPH-L		·			
D.O. (if req'd): Pre-purge:	mg/ <sub>L</sub> Post-purge:	rag/ <sub>L</sub>			
O.R.P. (if req'd): Pre-purge:	mV Post-purge:	mV			

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Project #: 03/209 - ZMI	Client: Blakely Env						
Sampler: ZM	Date: 12/9/03						
Well I.D.: NW-19	Well Diameter: 3 4 6 8						
Total Well Depth (TD):	Depth to Water (DTW): 38.65						
Depth to Free Product: 34.06	Thickness of Free Product (feet): 4.65						
Referenced to:	D.O. Meter (if req'd): YSI HACH						
DTW with 80% Recharge [(Height of Water Column x 0.20) + DTW]:							
Purge Method: Bailer Disposable Bailer Positive Air Displacement Extra Electric Submersible Other	Waterra Sampling-Method: Bailer Peristaltic Disposable Bailer ection Pump Extraction Port Dedicated Tubing Other:						
	Well Diameter Multiplier Well Diameter Multiplier						
(Gals.) X =	Gals. 3" 0.04 4" 0.65 2" 0.16 6" 1.47 Ohme radius <sup>2</sup> * 0.163						
Temp Cond.  Time (For C) pH (mS or µS)	Turbidity (NTUs) Gals. Removed Observations  d w/ interface probe						
Ne sample	taken —						
Did well dewater? Yes No	Gallons actually exacuated:						
Sampling Date: Sampling Tir	ne: Depth to Water:						
Sample I.D.:	Laboratory:						
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other:						
EB I.D. (if applicable):	Duplicate I.D. (if applicable):						
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other:						
D.O. (if req'd): Pre-purge:	mg/ <sub>L</sub> Post-purges mg/ <sub>L</sub>						
O.R.P. (if req'd): Pre-purge:	mV Post-purge: mV						

Project #: 03/209 - ZN	17	Client: Blakely Env			
Sampler: ZM		Date: /2/9/03			
Well I.D.: MW-20	Well Diameter	2 3 4	6 8	`	
Total Well Depth (TD): 67	60	Depth to Water	r (DTW): 44.	53 (44	64
Depth to Free Product:		Thickness of F	ree Product (fee	et):	
Referenced to:	Grade	D.O. Meter (if	req'd):	(YS)) 556	HACH
DTW with 80% Recharge [(He	eight of Water	Column x 0.20	) + DTW]: 4	19.14	
Purge Method: Bailer Disposable Bailer Positive Air Displacemen Electric Submersible	Other 2"		Sampling Method:	Ospos Extra Dedica	Sailer Sable Bailer ction Port tted Tubing
	(gpm	Well Diamete	multiplier Well 1	Diameter Mu 0,6	ltiplier iS
36 (Gals.) X Specified Volume	$_{\rm es} = \frac{10.8}{\text{Calculated Vo}}$	Gals. 2°	0.16 6* 0.37 . Other	1.4	_
1 Case volume Specified volume	CS CAICHIAIGH VO	I .	1		
Temp	Cond.	Turbidity			
Time (°F or © pH	(mS or µS)	(NTUs)	Gals. Removed		rvations
1205 23.2 69	2306	533	v 24	258	67.0
1209 23.3 6.9	2198	241	.8	2.66	62.2
1212 23.3 70	2192	95	11	3.00	58.6
Did well dewater? Yes (	MD	Gallons actuall	y evacuated:	11	
Sampling Date: 12/9/03	Sampling Tim	e: /222	Depth to Water	r: 44.	80
Sample I.D.: MW-20		Laboratory:	<b>=</b> TS	• .	
Analyzed for: TPH-G BTEX	МТВЕ ТРН-D	Oxygenates (5)	Other:		
EB I.D. (if applicable):	@ Time	Duplicate I.D.	(if applicable):		
Analyzed for: TPH-G BTEX	MTBE TPH-D	Oxygenates (5)	Other:		
D.O. (if req'd): Pre-purge:		me/L F	ost-purge:		™g/ <sub>L</sub>
O.R.P. (if req'd): Pre-purge:		mV I	ost-purge:		mV

		· ·		<u>" "</u>	· _			
Project #: 03/209 - ZMI					Client: Blakely Env			
Sampler: ZM					Date: /2 /9/03			
Well I.D.: MW-2				riii -	Well Diamete	er: 🕭 3 4	68_	
T	otal Well D	epth (TD)	: 6	3.25	Depth to Wat	ter (DTW): 45.	44 (	45.84)
I	epth to Fre	e Product:	•		Thickness of	Free Product (fee	et):	
E	eferenced t	0:	PVC	Grade	D.O. Meter (	if reg'd):	(F) 555 G	HACH
Ī	TW with 8	0% Recha	rge [(He	eight of Water	Column x 0.2	0) + DTW]:	49.00	
	Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible Other 2 **  Start @ 1024				Waterra Peristaltic tion Pump  **L=di-flo  Well Diam 1" Gals.  Gals.	Sampling Method:  Other:  octer Multiplier Well  0.04 4"  0.16 6"	Dispos Extrac Dedica	· I
1	Case Volume	als.) X Specif	ied Volum	es Calculated Vo	- 11 48	0.37 Other	r sad	rus <sup>2</sup> * 0,163
	Time	Temp (°F or 🗑	pН	Cond. (mS or 🔊	Turbidity (NTUs)	Gals. Removed	Obse	rvations
, -	1027	33.8	6.9	1905	365		1.48	0.4
	1030	229	6.8	1880	75	6	p.34	-7-0
	1032	22.9	6-8	1868	60	8.5	2.54	7.5
1								
1						,	. 1	
}	Did well de	water?	Yes (	N8j	Gallons actu	ally evacuated:	85	
	Sampling I	)ate: /2/	16/63	Sampling Tim	e: 1040	Depth to Wate	r: 46.	30
,	Sample I.D	. Mw	-21		Laboratory:	575	··	
	Analyzed f	or: TPH-G	BTEX	MTBE TPH-D	Oxygenates (5)	) Other:		
}	EB I.D. (if	applicable	):	@ Time	Duplicate I.I	D. (if applicable):	MWZ	@/450
ļ	Analyzed f	or: TPH-G	BTEX	MTBE TPH-D	Oxygenates (5	) Other:		
{	D.O. (if rec	ı'd): P	re-purge:		mg/L	Post-purge:		™B/ <sub>L</sub>
'	O.R.P. (if r	eq'd): P	re-purge:		mV	Post-purge:	<u> </u>	mV

Project #: 03/209 - ZMI	Client: Blakely Env			
Sampler: ZM	Date: /2/9/03			
Well I.D.: MW-22	Well Diameter: 2 3 4 6 8			
Total Well Depth (TD): 40.15	Depth to Water (DTW): Pry			
Depth to Free Product:	Thickness of Free Product (feet):			
Referenced to: FVC Grade	D.O. Meter (if req'd): YSI HACH			
DTW with 80% Recharge [(Height of Water	Column x 0.20) + DTW]:			
Purge Method: Bailer Disposable Bailer Positive Air Displacement Extract Electric Submersible Other	Waterra Sampling Method: Bailer Peristaltic Disposable Bailer tion Pump Extraction Port Dedicated Tubing Other:  Well Dismeter Multiplier Well Dismeter Multiplier 1" 0.04 4" 0.65			
(Gals.) X = = Calculated Volumes	Gals. 2" 0.16 6" 1.47			
Temp Cond. Time (For °C) pH (mS or µS)  — We // wa 5	Turbidity (NTUs) Gals. Removed Observations			
No Sample	taken -			
Did well dewater? Yes No	Gallons actually evacuated:			
Sampling Date: Sampling Time	e: Depth to Water:			
Sample I.D.:	Laboratory:			
Analyzed for: TPH-G BIRX MTBE TPH-D	Oxygenates (5) Other:			
EB I.D. (if applicable):	Duplicate I.D. (if applicable):			
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other:			
D.O. (if req'd): Pre-purge:	mg/L Post-purges. mg/L			
O.R.P. (if req'd): Pre-purge:	mV Post-purge: mV			

Project #: 03/209 - ZMI	Client: Blakely Env			
1	Date: /2/9/03			
Well I.D.: 16-23	Well Diameter: 2 3 ④ 6 8			
Total Well Depth (TD):	Depth to Water (DTW): 42.65			
Depth to Free Product:	Thickness of Free Product (feet):			
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH			
DTW with 80% Recharge [(Height of Water	Column x 0.20) + DTW]:			
	Waterra Sampling Method: Bailer Peristaltic Disposable Bailer Extraction Port Dedicated Tubing Other:			
	Well Diameter Multiplier   Well Diameter Multiplier   1"   0.04   4"   0.65   2"   0.16   6"   1.47			
Gals.) X	Gals.			
Temp Cond. Time (°F or °C) pH (mS or µS)	Turbidity (NTUs) Gals. Removed Observations			
- No sample	taken			
, <u> </u>				
Did well dewater? Yes No	Gallons actually evacuated:			
Sampling Date: Sampling Time	E: Depth to Water:			
Sample I.D.:	Laboratory:			
Analyzed for: TPH-G BYEX MTBE TPH-D	Oxygenates (5) Other:			
EB I.D. (if applicable):	Duplicate I.D. (if applicable):			
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (5) Other:			
D.O. (if req'd): Pre-purge:	mg/L Post-purge: mg/L			
O.R.P. (if req'd): Pre-purge:	mV Post-purge: mV			

Project #: 03/209 - ZMI	Clien	nt: Blak	ely Env	<u>.                                    </u>	
Sampler: ZM		Date: /2/9/03			
Well I.D.: MW-24	Well	Well Diameter: 2 3 4 6 8			
Total Well Depth (TD):	Dept	h to Water	(DTW): 4/	5.69	
Depth to Free Product:	Thic	kness of Fr	ee Product (fee	t):	
Referenced to:	Grade D.O.	Meter (if r	eq'd):	YSI HACH	
DTW with 80% Recharge [(Heigh	t of Water Colu	mn x 0.20)	+ DTW]:		
Purge Method: Bailer Disposable Bailer Positive Air Displacement Electric Submersible	Water Peristal Extraction Pur Other	tic	Sampling Method: Other;	Bailer Disposable Bailer Extraction Port Dedicated Tubing	
	<u> </u>	Well Diameter	Multiplier Well I	Diameter Multiplier  0.65	
(Gals.) X *  1 Case Volume Specified Volumes	Gals.	2" 3"	0.16 6* 0.37 Other	1,47	
Temp Time (°F or °C) pH (1		urbidity (NTUs)	Gals. Removed	Observations	
No	sample	-taker	·		
		,-		· 	
Did well dewater? Yes No	Gall	ons actually	y evacuated:		
Sampling Date: Sar	npling Time:		Depth to Water	r:	
Sample I.D.:	Dabo	oratory:			
Analyzed for: TPH-G BTEX MT	ве трн-р Охуд	genates (5)	Other:		
EB I.D. (if applicable):	@ Dup	licate I.D.	(if applicable):		
Analyzed for: TPH-G BTEX MTBE TPH-D Oxygenates (5) Other:					
D.O. (if req'd): Pre-purge:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	ng/L P	ost-purge:	mg/L	
O.R.P. (if req'd): Pre-purge:	Œ	aV P	ost-purge:	Vm·V	

Project #: 03/209 - ZMI	Client: Blakely Env
Sampler: ZM	Date: /2/9/03
Well I.D.: MW-25	Well Diameter: 2 3 4 6 8
Total Well Depth (TD):	Depth to Water (DTW): 47.35
Depth to Free Product:	Thickness of Free Product (feet):
Referenced to: PVC Grade	D.O. Meter (if req'd): YSI HACH
DTW with 80% Recharge [(Height of Wate	r Column x 0.20) + DTW]:
Purge Method: Bailer Disposable Bailer Positive Air Displacement Extra Electric Submersible Other	Waterra Sampling Method: Bailer Peristaltic Disposable Bailer action Pump Extraction Port Dedicated Tubing Other:
	Well Diameter   Multiplier   Well Diameter   Multiplier
(Gals.) X =	Gals. 2" 0.16 6" 1.47
Temp Cond. Time (°F or °C) pH (mS or μS)	Turbidity (NTUs) Gals. Removed Observations
Grauge on	
No Sample	taken -
Did well dewater? Yes No	Gallons actually evacuated:
Sampling Date: Sampling Time	me: Depth to Water:
Sample I.D.:	Laboratory:
Analyzed for: TPH-G BTEX MTBE TPH-D	Oxygenates (S) Other:
EB I.D. (if applicable):	Duplicate I.D. (if applicable):
Analyzed for: TPH-G BTEX MTBE TPH-D	
D.O. (if req'd): Pre-purge:	mg/L Post-purge: mg/L
O.R.P. (if req'd): Pre-purge:	Post-purge: mV

					-				
Project #: ¿	31209	-ZMI		Client:	3/aK	ely &	ENV		
Sampler:	zM	- -		Date: /	a/91	03			
Well I.D.:	MW-2	6		Well Dia	meter:	<b>⊘</b> 3	4 6	5 8 <u> </u>	
Total Well	Depth (TD)	: 39-	75	Depth to	Water	(DTW):	39.60		
Depth to Fr	ee Product:			Thicknes	s of Fr	ee Produ	ct (feet):		
Referenced		<b>€</b> €€	Grade	D.O. Me	ter (if 1	eq'd):	YS	и насн	
DTW with	80% Recha	rge [(Hei	ight of Water	Column	x 0.20)	+ DTW]			]
Purge Method:	Bailer Disposable Ba Positive Air D Electric Subm	isplacement		Waterra Peristaltic ion Pump	ell_Diamete	Sampling	Method: Other:	Bailer Disposable Bailer Extraction Port Dedicated Tubing	
					)" 2"	0.04 0.16	4" 6"	0.65 1.47	İ
1 Case Volume	(Gals.) X Specif	ied Volume:	Calculated Vo	Gals. hume	3"	0.37	Офег	radjus <sup>2</sup> * 0.163	
Time	Temp (°F or °C)	pH Ensura	Cond. (ms or us) Fract was Sample		Js) Fo 50	Gals. Re		Observations	-
,		700	Sample	141-	<u> </u>			· · · · · · · · · · · · · · · · · · ·	
					· · ·				
								,	_
Did well d	lewrater?	Yes ]	 No	Gallons	actuall	ly evacua	ted:		
Sampling			Sampling Tim				Water:	· · · · · · · · · · · · · · · · · · ·	
Sampling Sample I.)		<u></u>		Laborat	ULA	· · ·	1		
		\ porev	MTBE TPH-D	Oxygena		Other:			
Analyzed		$\overline{}$	@		$\overline{}$	(if applie	able).	<del>\</del> .	
Analyzed	f applicable for: TPH-G	· ·	MISE TPH-D	Oxygena	<del></del>	Other:	auioj.		
D.O. (if r		re-purge:	1711100 1711-10	mg/I		Post-purge	;		mg/L
O.R.P. (if		re-purge:		- mV		Post-purge	<del></del>	<del></del>	mγ
1 (11	• /• •	r							

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# SOUTHLAND TECHNICAL SERVICES, INC.

CHAIN OF CUSTODY RECORD

Lab Job Number \_

Com B.C Com	pany	- /	Date   2-9-63	Time 1615	Repaired by	82					pany 7 \$					ainer ty		M=Metai Tube P=Plastic bottle
								-										
													-					
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	V		V		2 V				X						<u> </u>			
				HCL Harron	34 1.28ml 1.538ml G1	<u> </u>	K				٠.	Y	×	<u>×</u>	×	X	X	
-1					3V				Х									
-3	1.	I		V			<u>γ</u>		乂			丛	耂	X	<u> </u>	×	<u>×</u>	
-4		13:35					X		<del></del> -	<u> </u>		<del></del>	<u> </u>		<del></del>	紏	<u>~</u>	
٦-		12:22					_						X	_	X	씱	×	
312074-5	12-9-03	11:31	water		3V (260) 1-500NLG							$\star$	×			$\mathbb{H}$		
Lab Sample ID	Date	Time	Type	Preserve	container	602/8		8015	<del>}</del>	8260	8260	ă	<u>ર</u> ુષ			200		
Mageils Chem	MCM C	v. 07	<i>y</i> <b>2</b> 070		No.,type*		M (G	Ğ.	3	ŏ)	B (M	F	14	3	246	4 4	Θ •	Remarks
Project Site	<u>00 001 1</u>	<u>्रथ्य</u> १	15 Com	<u>ن اول</u> ب4س	<del>ر</del>	вте	solîn	esel)	္တို	/genat	13E	χ	رة 12 ج	₹	L Gar	1 X	W.E.S	☐ Sample seals
Phone	Fax	7 05-7-1	Sampled by	<u> </u>	7	X,M	(e)			ës. B	Com	爿	97	Ę	lgt.	نو	ارة	Sample Condition ☐ Chilled ☐ Intact
lan Road	, Phe	lau,C	A 92	37/		гве)				(E)	(JEE)	Ŕ	¥	<u>1</u>	(Lico)			☐ 2-3 days ☐ Norma
vironmental	Inve	stigai	tions,	Inc.						Anal	yses	Requ	este	1 				T.A.T. Requested  Rush 8 12 24 hours
P	lan Road, thone The Stat 8572 reject Site Angeles Chun Lab Sample ID 312074-1 -4 -3	lan Road, Phenhone The Wat 8572 760 868 reject Site Ingeles Chemics Complete Sample Lab Sample ID Date  312074-1-129-03 -4 -4 -3	Fax   The State   Fax   The State   State   The Stat	Jan Road, Phelan, CA 92	Lab   Sample Collect   Matrix   Sample   Preserve	Fax   Sampled by   Fax   Two 868 8573   Zach (BTS)   Two 868 8573   Zach (BTS)   Togets Site   Thogets Chemical Co. 89/5   Sovensen Ave.   No., type*   & size of container   Sample ID   Date   Time   Type   Preserve   & size of container   Sample ID   Sample   Time   Type   Treserve   Sample   & size of container   Sample   Time   Type   Treserve   Sample   Time   Type   Treserve   Sample   Time   Type   Treserve   Sample   Sample   Sample   Time   Type   Treserve   Sample   Type   Treserve   Type   Treserve   Type   Treserve   Type   Treserve   Type   Treserve   Type   Fax   Sampled by   Fax   The Sampled by   Fax   The Sampled by   Fax   The Sampled by   Fax   The Sample   The Samp	Sample ID   Date   Time   Type   Preserve   Container   Containe	Fax   Sampled by   Fax   Two 868 8573   Zach (BTS)   Fax   Two 868 8573	rironmental Investigations, Inc.  Ian Road, Phelau, CA 9237/ hone Fax Sampled by Tleo 868 8573 Zach (BTS) roject Site Angeles Chemical Co. 89/5 Somensen Ave.  Lab Sample Collect Matrix Sample & size of container 80 88 8578 8588 8578 8588 8578 8588 858	In Road, Phelau, CA 9237/	Tironmental Investigations, Inc.  Jan Road, Phelau, CA 9237/  hone Fax Sampled by Jach (BTS)  roject Site Angeles Chemical Co. 8915 Somensen Ave.  Lab Sample Collect Matrix Sample & size of container Some Sample ID Date Time Type Preserve container Co. 8000 8000 8000 8000 8000 8000 8000 80	Pironmental Investigations, Inc.  Jan Road, Phelau, CA 9237/  thone Fax  Theo 868 8673 Zach (BTS)  Toject Site  Angeles Chemical Co. 8915 Somensen five.  Lab  Sample Collect  Matrix  Sample  Preserve  Container  Type   Pironmental Investigations, Inc.  Jan Road, Phelan, CA 9237/  thone Fax  Theo 868 8573 Zach (BTS)  Troject Site  Angeles Chemical Co. 8915 Somensen five.  Lab  Sample Collect  Lab  Sample Collect  Type  Preserve  Container 68 88 88 88 88 88 88 88 88 88 88 88 88	rironmental Investigations, Inc.  Ian Road, Phelan, CA 9237/  thone Theo shares Tax Sampled by Theo shares Too 868 8673 Zach (BTS)  roject Site Angeles Chemical Co. 89/5 Sovensen Ave.  Lab Sample Collect Matrix Sample & size of 800 800 800 800 800 800 800 800 800 80	rironmental Investigations, Inc.  Ian Road, Phelau, CA 9237/  thore  Theo stars 160 868 8673 Zach (BTS)  Toget site  Ingels Chemical Co. 89/5 Somensen Ave.  Lab  Sample Collect  Matrix  Sample Wasize of Preserve container  Sample ID  Date Time Type Preserve container  12:22  -4 13:35  -2 15:11  HC2 3V 1:28m/16  KC2 3V 1:28m/16  KC3 3V 1:28m/16  KC4 X X X X X X X X X X X X X X X X X X X	rironmental Investigations, Inc.  Ian Road, Phelan, CA 9237/  Hone Fax Sampled by  Tleo 4618572 No 868 8673 Zach (BTS)  roject site  Angeles Chemical Co. 89/5 Somensen Ave.  Lab Sample Collect Matrix Sample & size of Preserve container  Sample ID Date Time Type Preserve container  Container  Type Preserve Container  Typ	Sample   Sample   Co. 89/5   Sorensen   Ave.   Sample   Sample   Co. 89/5   Sorensen   Ave.   Sample   Co. 89/5   Sorensen   Ave.   Sample   Co. 89/5   Sorensen   Ave.   Co. 89/5   Sorense		

Southland Tech. Services, Inc.

7801 Telegraph Road, Suite L & K Montebello, CA 90640

(323) 888-0728 Tel: Fax:

(323) 888-1509

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense.

Distribution: WHITE with report, PINK to courier.



Environmental Laboratories

12-29-2003

Mr. Hiram Garcia Blakely Environmental Investigations, Inc. 4359 Phelan Road Phelan, CA 92371

Project:

Angeles Chemical Co.

Project Site:

8915 Sorensen Ave., Santa Fe Springs, CA

Sample Date:

12-09-2003

Lab Job No.:

BL312074

Dear Mr. Garcia:

Enclosed please find the analytical report for the sample(s) received by STS Environmental Laboratories on 12-09-2003 and analyzed for the following parameters:

EPA 8015M (Gasoline)

EPA 8260B (VOCs by GC/MS)

EPA 160.1 (Total Dissolved Solids)

EPA 352,1 (Nitrate)

EPA 325.3 (Chloride)

EPA 375.4 (Sulfate)

EPA 376.1 (Sulfide)

EPA 7380 (Total Iron)

Ferrous Iron

EPA 7460 (Manganese)

EPA 310.1 (Alkalinity)

Standard Method 4500 (Carbonate & Bicarbonate)

EPA 415.1 (Total Organic Carbon, Dissolved Organic Carbon)

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

Chloride, sulfide, Alkalinity, TDS, Carbonate & Bicarbonate analyses were subcontracted to Americhem Testing Laboratory. TOC & DOC analyses were subcontracted to Associated Laboratories. Their original reports are attached.

STS Environmental Laboratory is certified by CA DHS (Certificate Number 1986). Thank you for giving us the opportunity to serve you. Please feel free to call me at (323) 888-0728 if our laboratory can be of further service to you.

Sincerely,

Roger Wang, Ph. D.

Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.



#### Environmental Laboratories

12-29-2003

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312074

Project:

Angeles Chemical Co.

Project Site:

8915 Sorensen Ave., Santa Fe Springs, CA

Date Sampled:

12-09-2003

Matrix:

Date Received:

12-09-2003

#### Analytical Test Results

Analyte	EPA Method	Date Analyzed	Reporting Unit	MW-12	MW-14	MW-15	MW-17	MW-20	Reporting Limit
Nitrate	352.I	12-10-03	mg/L	1.16	20.9	25.2	20.1	21.4	0.01
Sulfate	375.4	12-10-03	mg/L	47	399	287	387	501	1.0
Total Iron	7380	12-10-03	mg/L	3.65	0.14	0.38	0.36	0.24	0.1
Ferrous Iron	Colori- metry	12-10-03	mg/L	0.73	0.21	0.21	0.22	0.14	0.05

ND: Not Detected (at the specified limit).

Phone: (323) 888-0728 Fax: (323) 888-1509



Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.

Project:Angeles Chemical Co.

Lab Job No.: BL312074

Matrix: Water

Date Reported: 12-29-2003

Date Sampled: 12-09-2003

#### EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE A			12-11	12-11-03	12-11-03	12-11-03		
DILUTIO	N FA	TOR		2.5	2.5	2	2.5	
LAB S	A MIPT	EID		BL312074		1	I ' I	
		1		-1	-2	-3	-4	
CLIENT S				MW-01	MW-12	MW-14	MW-15	
COMPOUND	MDL	PQL	MB					
Dichlorodifluoromethane	2	5	ИĎ	ND	ND	ND	ND	
Chloromethane	2	5	ND	ND	ND	ND	ND	
Vinyl Chloride	2	2	ND	5.5j	13.1	6.1	134	
Bromomethane	2	5	ND .	ND	ND	ND	ND	
Chloroethane	2	5	ND	ND	ND	ND	ИD	
Trichlorofluoromethane	2	5	ND	ND	ND	ND	ND	
1,1-Dichloroethene	2	5	ND	700	7.3j	675	234	
Iodomethane	2	5	ND	ND	ND	ND	ND	
Methylene Chloride	2	5	ND	ND	ND	ND	ND	
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ND	מא	
1,1-Dichloroethane	2	5	ND	230	735	219	262	
2,2-Dichloropropane	2	5	ND	ND	ND	NĎ	NĎ	
cis-1,2-Dichloroethene	2	5	ND	130	5.1j	113	1,570	
Bromochloromethane	2	5	ND	ND	ИD	ND	ND	
Chloroform	2	5	ND	ND	ND	ND	ND	
1,2-Dichloroethane	2	5	ND	11.2j	ND	9.2j	ИD	
I, I, I-Trichloroethane	2	5	ND	ND	10.7j	ND	ND	
Carbon tetrachloride	2	5	ND	ND	ND	ND	ND	_
1,1-Dichloropropene	2	5	ND	ND	ND	ND	ND	
Benzenc	. 1	1	ND	12.5	9.1	14.6	12.9	
Trichloroethene	2	2	ИD	20.3	ND	22.6	9.3	
1,2-Dichloropropane	2	5	ND	ND	ND	ND	ND	
Bromodichloromethane	2	5	ND	ND	ND	ND	ИD	
Dibromomethane	2	5	ND	ND	ИD	ND	ND	
trans-1,3-Dichloropropene	2	5	מת	ND	ND	ND	ND	
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND	
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND	ND	
1,3-Dichloropropane	2	5	ND	ND	ND	ND	ND	
Dibromochloromethane	2	5	ND	ND	ND	ND	ND	
2-Chloroethylvinyl ether	2	5	ND	ND	ND	ND	ND	
Bromoform	2	5	ND	ND	ND	ND	ND	
Isopropylbenzene	2	5	ND	מא	42.2	ND	ND	
Bromobenzene	2	,5	ND	ND	ИĎ	ND	ND	



Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.

Project:Angeles Chemical Co.

Lab Job No.: BL312074

Matrix: Water

Date Reported: 12-29-2003

Date Sampled: 12-09-2003

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-01	MW-12	MW-14	MW-15		
Toluene	1	1	ИD	ND	9.7	ND	3.2		
Tetrachloroethene	2	2	ИD	40.2	3.8j	42.4	12.1		
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND	ND	ND		
Chlorobenzene	2	5	ND	ND	5.2j	ND	מא		· · · · · · · · · · · · · · · · · · ·
1,1,1,2-Tetrachloroethan	2	-5	ND	ND	ND	ИĎ	ИD		
Ethylbenzene	1	1	ND	ND	.157	ND	ND		
Total Xylenes	1	1	ND	ИD	157	ND	ND		
Styrene	2	5	ИD	ИD	ND	ND	ND		
1,1,2,2-Tetrachloroethan	2	5	ND	ДИ	ND	ND	ND		
1,2,3-Trichloropropane	2	5	ND	ďИ	ND	ND	ND		
n-Propylbenzene	2	5	ДИ	ND	123	ND	ND		
2-Chlorotoluene	2	5	ND	ND	ND	ND	ND		
4-Chlorotoluene	2	.5	ND	ND	ND	ND	ND		<u> </u>
1,3,5-Trimethylbenzene	2	5	ND	ND	294	ИD	ND		
tert-Butylbenzene	2	5	ND	ND	МD	ND	ND		1
1,2,4-Trimethylbenzene	2	- 5	ND	ND	498	ND	Й		
Sec-Butylbenzene	2	5	ND	ND	ND	ND	ND		
1,3-Dichlorobenzene	2	. 5	ND	ND	ND	ND	ND		·
p-Isopropyltoluene	2	5	ND	ND	ND	ND	ND		
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		1
1,2-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
n-Butylbenzene	2	5	מא	ND	22.3	ND	ND		
1,2,4-Trichlorobenzene	2	5	ND	ND	ND	ND	ND"		1
1,2-Dibromo-3-	2	5	ND	ND	ND	ND	ND		
Chloropropane		, ,	110	1			<u> </u>		<u> </u>
Hexachlorobutadiene	2	5	ИĎ	ND	ND	ND	ИD		
Naphthalene	2	5	מא	ND	113	ND	ND		
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	ND	ND		
Acetone	5	25	ND	ND	ND	ND	ND	1	Τ
2-Butanone (MEK)	5	25	ND	ND	ND	ND	ND		
Carbon disulfide	5	25	ND	ND	ND	ND	מא		
4-Methyl-2-pentanone	5	25	ИD	ND	ND	ND	ND		
2-Hexanone	5	25	ND	ND	ND	ND	ND		
Vinyl Acetate	5	25	ND	ND	ND	ND	ИD		1
1,4-Dioxane	50	100	ND	ND.	ND	מא	ND		1
MTBE	2	2	ND	"ND	ND	ND	ND		T
ETBE	2	2	ND	ND	ND	מא	ND		1
DIPE	2	2	ND	ND	ND	QN C	ND		<del>                                     </del>
TAME	2	2	ND	ND	ND	ND	ND		
T-Butyl Alcohol	10	10	ND	ND	ND	ИD	ND		1

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF × MDL), j=trace concentration.

Phone: (323) 888-0728 Fax: (323) 888-1509



#### Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.

Project:Angeles Chemical Co.

Lab Job No.: BL312074

Matrix: Water

Date Reported: 12-29-2003

Date Sampled: 12-09-2003

#### EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE			12-11	12-11-03	12-11-03	12-11-03			
DILUTIO	N FAC	TOR		1	1	.1			
LAB S	A MPT	e to			BL312074	BL312074			
1				-5	-6	-7			
CLIENT S				MW-17	MW-20	TB			
COMPOUND	MDL	-	MB	•			1		
Dichlorodifluoromethane	2	5	ND	ND	ND	NĎ			
Chloromethane	2	5	ND	ND	ND	ND		1	
Vinyl Chloride	2	2	ИĎ	ND	ND	ND			
Bromomethane	2	5	ΝĎ	ND	ЙĎ	ND		1	
Chloroethane	2	5	ND	ND	ND	ND			
Trichlorofluoromethane	2	5	ND	ND	ND	ND			
1,1-Dichloroethene	2	5	ND	7.8	43.8	ND		1	
Iodomethane	2	5	ИĎ	ND	ND	ND			
Methylene Chloride	2	- 5	ND	ND	ND	ND	****		
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ИĎ			· · · · · · · · · · · · · · · · · · ·
1,1-Dichloroethane	2	5	ND	ND	123	ND			
2,2-Dichloropropane	2	5	ND	ND	ND	ND	·		
cis-1,2-Dichloroethene	- 2	5	ND	ND	26.7	ИĎ			
Bromochloromethane	2	5	ND	ND	ND	ND			
Chloroform	2	5	ИD	ND	ND	ND			
1,2-Dichloroethane	2	5	ND	ND	ND	ND			
1,1,1-Trichloroethane	2	5	ND	2.2j	81.7	ND			
Carbon tetrachloride	2	5	ND	מא	ND	ND			
1,1-Dichloropropene	2	5	ND	ND	ND	ďИ			
Benzene	1	1	ND	ND	1.3	ND			
Trichloroethene	2	2	ND	7.3	4.4	ND			
1,2-Dichloropropane	2	5	ND	ND	ИD	ND			
Bromodichloromethane	2	5	ND	ND	ND	ND			
Dibromomethane	2	5	ND	ND	ND	ND		T	
trans-1,3-Dichloropropene	2	5	ND	ИD	ND	ND			
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND		1	
1,1,2-Trichloroethane	2	5	ND	ďИ	ND	ND			
1,3-Dichloropropane	2	5	ND	ND	ДИ	ND			
Dibromochloromethane	2	5	ND	ND	ND	ND			
2-Chloroethylvinyl ether	2	5	ND	ND	ND	ND			
Bromoform	2	5	ND	ND	ND	ND			
Isopropylbenzene	2	5	ND	ND	ND	ND	<u> </u>		
Bromobenzene	2	5	ND	ND	ND	ND	1		



Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.

Project: Angeles Chemical Co.

Lab Job No.: BL312074

Matrix: Water

Date Reported: 12-29-2003

Date Sampled: 12-09-2003

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-17	MW-20	TB		Т —	
Toluene	1	<u>1</u>	ND	ND	14.6	ND			
Tetrachloroethene	2	2	ND	18.0	3.4j	ND			
1,2-Dibromoethane(EDB)	2	3	ND	ND	ND	ND			
Chlorobenzene	2	5	ND	ND	ND	ND			
I,1,1,2-Tetrachloroethan	2	5	ND	ND	ND	ND			
Ethylbenzene	1 ·	1	ND	ND	ND	ND			<del>                                     </del>
Total Xylenes	1	1	ИD	МD	22.0	ND			T
Styrene	2	5	ND	ND	ND	ND			
1,1,2,2-Tetrachloroethan	2	5	ND	ИÐ	ND	ND			
1,2,3-Trichloropropane	2	5	ND	ND	ND	מא	'	<u> </u>	
n-Propylbenzene	2	5	ИĎ	ИD	22.9	ND	•		
2-Chlorotoluene	2	5	ДИ	ND	ND	ND			
4-Chlorotoluene	2	- 5	ND	ND	ND	ND			
1,3,5-Trimethylbenzene	2	3	ND	ND	13.8	ND		1	
tert-Butylbenzene	2	5	ДŊ	ND	ND	Й		`` -"''-	
1,2,4-Trimethylbenzene	2	5	ND	ND	33,1	ND			
Sec-Butylbenzene	2	3	ND	ND	ND	ND			
1,3-Dichlorobenzene	2	- 3	ND	ND	ND	ND			
p-Isopropyitoluene	2	5	ND	ND	ND	ND			
I,4-Dichlorobenzene	2	5	ND	ND	ND	ND			<u> </u>
1,2-Dichlorobenzene	2	- 5	ND	ИĎ	ND .	ND			
n-Butylbenzene	2	5	ND	ND	2.1j	ND			
1,2,4-Trichlorobenzene	2	5	ND	ďИ	ND	ND			
1,2-Dibromo-3- Chloropropane	2	5	מא	ND	ND	מא			
Hexachlorobutadiene	2	5	ND	ND	ND	מא			
Naphthalene	2	5	מא	ND	ND	ND		•	-
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	ND			· ·
Acetone	5	2.5	ND	ND	ND	ND			
2-Butanone (MEK)	5	25	ND	ND	ND	ND		<del>                                     </del>	-
Carbon disulfide	5	25	ND	ND	ND	D TO		<del>-</del>	
4-Methyl-2-pentanone	5	25	ND	ND	ND	ND		<u> </u>	
2-Hexanone	5	25	ND	ND	ЙĎ	ND			· · · · · · · · · · · · · · · · · · ·
Vinyl Acetate	- 5	25	ND	ND	ND	ND			<del></del>
1,4-Dioxane	50	100	ND	ND	ND	ND			
МТВЕ	2	2	ND	ND ND	ND.	ND	<u> </u>	<b>—</b>	
ETBE	2	2	ND	ND	ND	ND			<u> </u>
DIPE	2	2	T ND	ND	ND	ND	t		
TAME	2	2	ND.	ND	ND	ND			
T-Butyl Alcohol	10	10	TND D	ND	ND	ND	<u> </u>	-	

MDL=Method Detection Limit, MB=Method Blank; ND=Not Detected (below DF × MDL), j=trace concentration.



#### Environmental Laboratories

12-29-2003

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312074

Project:

Angeles Chemical Co.

Project Site:

8915 Sorensen Ave, Santa Fe Springs

Date Sampled:

12-09-2003

Matrix:

Date Received:

Water

12-09-2003

Batch No.:

CL10-GW1

Date Analyzed:

12-10-2003

Phone: (323) 888-0728 Fax: (323) 888-1509

#### EPA 8015M (Gasoline) Reporting Units: µg/L (ppb)

Sample ID	Lab ID	Gasoline (C4-C12)	Method Detection Limit	PQL
Method Blank		ND	50	50
MW-1	BL312074-1	609	50	50
MW-12	BL312074-2	5,390	50	50
MW-14	BL312074-3	521	50	50
MW-15	BL312074-4	790	50	50
MW-17	BL312074-5	ND	50	50
MW-20	BL312074-6	1,080	50	50
TB	BL312074-7	ND	50	50

ND: Not Detected (at the specified limit)



Environmental Laboratories

12-29-2003

#### EPA 8015M (TPH) Batch QA/QC Report

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312074

Project:

Angeles Chemical Co.

Lab Sample ID:

R312069-1

Matrix:

Water

Date Analyzed:

12-10-2003

Phone: (323) 888-0728 Fax: (323) 888-1509

Batch No.: CL10-GW1

#### L MS/MSD Report Unit: ppb

Analyte	Sample Conc.	Spike Conc.	MS	M\$D	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept, Limit	%Rec Accept. Limit
TPH-g	ND	1,000	1,080	1,130	108.0	113.0	4.5	30	70-130

#### IL LCS Result Unit: ppb

Analyte	LCS Report Value	True Value	Rec.%	Accept. Limit
ТРН-g	1,070	1,000	107.0	80-120

ND:

Not Detected



Environmental Laboratories

12-29-2003

#### EPA 8260B Batch QA/QC Report

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312074

Project:

Angeles Chemical Co.

Lab Sample ID:

R312095-1

Matrix:

Water

Date Analyzed:

12-11-2003

Batch No:

1211-VOAW

L MS/MSD Report Unit: ppb

Compound	Sample Conc.	Spike Conc.	MS	MŞD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
l,l- Dichloroethene	ND	20	20.7	16.8	103.5	84.0	20.8	30	70-130
Benzene	ND	20	21.0	18.7	105.0	93.5	11.6	30	70-130
Trichloro- ethene	ИĎ	20	19.9	19.4	99.5	97.0	2.5	30	70-130
Toluene	ND	20	19.9	19.3	99.5	96.5	3.1	30	70-130
Chlorobenzene	מא	20	18.6	17.9	93.0	89.5	3.8	30	70-130

#### IL LCS Result Unit: ppb

Compound	LCS Report Value	True Value	Rec.%	Accept. Limit
1,1-Dichloroethene		20	83.5	80-120
Benzene	17.6	20	88.0	80-120
Trichloro-ethene	18.2	20 .	91.0	80-120
Toluene	17.8	20	89.0	80-120
Chlorobenzene	17.4	20	87.0	80-120

ND: Not Detected (at the specified limit)

SOL	ITIII.	AND	TE	CHNIC	CAL	SERVICES,	INC.

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Page _	<u>l_of_</u>	L_

CHAIN OF CUSTODY RECORD

Lab Job Number Bl 312684

Topor Attraction Topor	Client:	Blakely Ewiponumbl Investigations										Analyses Requested								T.A.T. Requested  Rush 8 12 24 hours
Client Sample ID  Lab Sample Collect Matrix Sumple Reserved by AMM Company  Client Sample ID  Lab Sample Collect Matrix Sumple Size of So So So So So So So So So So So So So	4357 11	elem Kel	- PK	eyu.	, Ce	. •		TBE)		CHO		STEX)	firm.)	. ^	Į,	1,7,7	bendő			□ 2-3 days □ Normai
Client Sample ID  Lab Sample Collect Matrix Sumple Reserved by AMM Company  Client Sample ID  Lab Sample Collect Matrix Sumple Size of So So So So So So So So So So So So So	Report Attention	Phone 760)864-8572	Fax 76c)86v}-	<b>8573</b>	Sampled by	<u> </u>	ain Tech	EX.M	ine)	- هجرا	<u>ش</u>	nates. E	E Con	50	1	alini 11 (b)	ا تور	a,		A.Chilled 本Intact
MW - 13   BL31205 4-5 12-170 7:21   July   Received by AW Survey Company   Company	Project Name/No.	Project Site		ol C	owpa	<u>ሥ</u> ታ		(B)	Gasol	Diese	VOC	жуве	MTB	ď	13	₹1.	2	3		
MW - 13   BL31206 4-5 12-170 71-21   July   Received by AW Secured by Company Gestiss bottle   Secured by AW Secured by Secured by AW Secured by AW Secured by AW Secured by AW Secured by AW Secured by AW Secured by AW Secured by AW Secured by Secure	Client	0			. ' 1	t Sample	& size of	78021	5M (	5M (	50B (	)0B (C	50B (I	Ž.	5.7	Hate,	way			Remarks
1111 - 2   1-10   1-24   1-10   1-24   1-10   1-24   1-10   1-24   1-10   1-24   1-10   1-24   1-10   1-24		Sample ID						_	<u>8</u>	8	82(	826	82(	Ă	<u>1</u>	ŽĽ	<u>(§</u>			
M	MW-13:				lite	Tel 1		<u> </u>	ΙŽ		Ŕ			÷		÷		$\langle \cdot \rangle$		
HW-11  -4  12:37  -3  13:31  -4  14:37  -3  15:07  -3  15:07  -3  15:07  -3  15:07  -3  15:07  -3  15:07  -4  15:07  -5  -7  -7  -7  -7  -7  -7  -7  -7  -	MW-AL			<del></del>			<del>  </del>	├				$\vdash$						$\triangle$		
HW-11  -4  12:37  -3  13:31  -4  14:37  -3  15:07  -3  15:07  -3  15:07  -3  15:07  -3  15:07  -3  15:07  -4  15:07  -5  -7  -7  -7  -7  -7  -7  -7  -7  -	MW-02_		<del></del>	·	-		<del>-  </del>		$\overline{}$		IÇ	$\vdash$		7	7	×	$\overline{\mathbf{x}}$	$\Box$		
10 - 10 - 2 /5:07 / J J J J J J J J J J J J J J J J J J	MW-10					_	<del></del>	┢						<del>₹</del>	V	<u>/</u>	, <del>/</del>	$\frac{1}{\sqrt{1}}$		<del></del>
10 -3 15:07 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	11 - 11	<del></del>					<del></del>		Λ γ		₩	Н		文	X	X	$\stackrel{\wedge}{\times}$	文		
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Relinquished by  A=Air Bag P=Plastic bottle  G=Glass bottle V=VOA vial										<del> -</del>	-			_	$\vdash \vdash$					
Tak Lombany (J-class collectived by Lombany )	Balls autiched by	Com	DANY.	<del></del>	Date	Time J I	Received by	4.7			l	Com	pany:	<u></u>	<u>.                                    </u>					
	Relinquished by	<i>_</i>	<u>://</u>				Received by	MA	<i>V</i> )	in		Comp	рапу		مرجه د			_		

iouthland Tech. Services, Inc.

'801 Telegraph Road, Suite L & K

Montebello, CA 90640

(323) 888-0728 Tel:

Fax:

(323) 888-1509

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense. Distribution: WHITE with report, PINK to courier.



Environmental Laboratories

12-31-2003

Mr. Hiram Garcia Blakely Environmental Investigations, Inc. 4359 Phelan Road Phelan, CA 92371

Project:

Angeles Chemical Co.

Project Site:

8915 Sorensen Ave., Santa Fe Springs, CA

Sample Date:

12-10-2003

Lab Job No.:

BL312084

Dear Mr. Garcia:

Enclosed please find the analytical report for the sample(s) received by STS Environmental Laboratories on 12-10-2003 and analyzed for the following parameters:

EPA 8015M (Gasoline)

EPA 8260B (VOCs by GC/MS)

EPA 160.1 (Total Dissolved Solids)

EPA 352.1 (Nitrate)

EPA 325.3 (Chloride)

EPA 375.4 (Sulfate)

EPA 376.1 (Sulfide)

EPA 7380 (Total Iron)

Ferrous Iron

EPA 7460 (Manganese)

EPA 310.1 (Alkalinity)

Standard Method 4500 (Carbonate & Bicarbonate)

EPA 415.1 (Total Organic Carbon, Dissolved Organic Carbon)

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

Chloride, sulfide, Alkalinity, TDS, Carbonate & Bicarbonate analyses were subcontracted to Americhem Testing Laboratory. TOC & DOC analyses were subcontracted to Associated Laboratories. Their original reports are attached.

STS Environmental Laboratory is certified by CA DHS (Certificate Number 1986). Thank you for giving us the opportunity to serve you. Please feel free to call me at (323) 888-0728 if our laboratory can be of further service to you.

Sincerely

Roger Wang, Ph. D.

Laboratory Director

Enclosures

This cover letter is an integral part of this analytical report.



# Southland Technical Services, Inc. Environmental Laboratories

12-31-2003

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312084

Project:

Angeles Chemical Co.

Project Site:

8915 Sorensen Ave., Santa Fe Springs, CA

Date Sampled:

12-10-2003

Matrix:

Water

Date Received:

12-10-2003

#### **Analytical Test Results**

Analyte	EPA Method	Date Analyzed	Reporting Unit	MW-09	MW-10	MW-11	MW-13	MW-18	Reporting Limit
Nitrate	352.1	12-11-03	mg/L	25.5	5.21	3.96	17.4	1.14	0.01
Sulfate	375.4	12-11-03	mg/L	783	19.3	16.0	533	82.9	1.0
Total Iron	7380	12-11-03	mg/Ļ	0.36	31.7	30.6	0.19	63.1	0.1
Ferrous Iron	Colori- metry	12-11-03	mg/L	0.15	1.42	2.32	0.16	1.89	0.05

Analyte	EPA Method	Date Analyzed	Reporting Unit	MW-21			Reporting Limit
Nitrate	352.1	12-11-03	mg/L	22.8	, , , , , , , , , , , , , , , , , , ,	·	0.01
Sulfate	375.4	12-11-03	mg/L	287		•	1.0
Total Iron	7380	12-11-03	mg/L	1.20	•		0.1
Ferrous Iron	Colori- metry	12-11-03	mg/L	0.17			0.05

Not Detected (at the specified limit). ND:

Note: The analyses on this page were subcontracted to Americhem Testing Laboratory, ELAP No. 1758.

Phone: (323) 888-0728 Fax: (323) 888-1509



Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.

Lab Job No.: BL312084

Date Reported: 12-31-2003

Project:Angeles Chemical Co.

Matrix: Water Date Sampled: 12-10-2003

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE	ANAL	YZED	12-12-03	12-12-03	12-12-03	12-12-03	12-12-03	<del>-</del>	
DILUTIO	ON FA	CTOR		10	1	200	200		
TARS	AMPL	FID		BL312084-	BL312084-	BL312084-	BL312084-		
			1	1	2	3	4		
CLIENT S				MW-02	MW-09	MW-10	MW-11		
COMPOUND	MDL	PQL	MB						
Dichlorodifluoromethane	2	5	ND	ND	ND	ND	ND		
Chloromethane	2	5	ND	ND	ND	ND	ND		
Vinyl Chloride	2	2	ИD	38.0 j	5.2	3,700	1,530		
Bromomethane	2	5	ИĎ	ND	ND	ND	ND		
Chloroethane	2	5	ND	ND	ND	626j	1,550		
Trichlorofiuoromethane	2	5	ND	ND	ND	ND	ND		
1,1-Dichloroethene	2	5	ND	1,500	43.5	2,750	1,810	";"	
Iodomethane	2	5	ИĎ	ДИ	ND	ND	ND		
Methylene Chloride	2	5	ND	ND	ND	ND	ND		
trans-1,2-Dichloroethene	2	5	ЙĎ	ďИ	ND	ND	ND		
1,1-Dichloroethane	2	5	ND	2,230	50.0	53,500	49,200		
2,2-Dichloropropane	2	5	ND	ND	ND	ND	ND		
cis-1,2-Dichloroethene	2	5	ND	4,540	21.3	17,200	1,830		
Bromochloromethane	2	5	ND	ND	ND	ND	ND		
Chloroform	2	5	ND	ND	ND	ND	ND		
1,2-Dichloroethane	2	5	ND	ND	ND	ďИ	ND		1
I,1,1-Trichloroethane	2	5	ND	114	ND	7,460	852j	1	1
Carbon tetrachloride	2	- 5	ND	ND	ND	ND	ND		
1,1-Dichloropropene	2	5	ND	ND	ND	ND	ND		
Benzene	1	1	ND	63.0	2.1	292	768	···	1
Trichloroethene	2	2	ND	133	1.7)	ND	ND		1
1,2-Dichloropropane	2	5	ND	ND	ND	ND	ND	1	1
Bromodichloromethane	2	5	ND	ND	ND	ND	ND		
Dibromomethane	2	5	ND .	ND	ND	ND	ND	į	<u> </u>
trans-1,3-Dichloropropene	2	5	ИĎ	ЙĎ	ND	ND	ND		
cis-1,3-Dichloropropene	2	5	. ND	ND	ИD	ND	ND	<u> </u>	
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND	ND		
1,3-Dichloropropane	2	5	ND	ND	ND	ND	ND		
Dibromochloromethane	2	3	ND	. ND	ND	ND	ND		
2-Chloroethylvinyl ether	2	5	ND	ND	ДИ	ND	ND		1
Bromoform	2	5	ND	DN	ND	ND	ДИ		
Isopropylbenzene	2	5	ND	ФИ	ND	ND	ND	1	1
Bromobenzene	2	5	ND	ND "	ND	ND	ND	1	1



Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.

Project: Angeles Chemical Co.

Matrix: Wa

Lab Job No.: BL312084 Date Reported: 12-31-2003

Matrix: Water Date Sampled: 12-10-2003

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-02	MW-09	MW-10	MW-11		
Toluene	1	1	ND	ND	ND	13,300	6,570		
Tetrachloroethene	2	2	ND	126	4.5j	ND	ИĎ	-	
1,2-Dibromoethane(EDB)	2	5	ND	ND	NĎ	ND	ND		
Chlorobenzene	2	5	ND	ND	ND	ND	ND		
1,1,1,2-Tetrachloroethan	2	5	ND	ND	DIN	ND	מא		
Ethylbenzene	1	1	ND	ND	ND	1,450	1,140		
Total Xylenes	1	1	ND	89.6	מא	4,590	2,020		
Styrene	2	5	ND	ND	ND	ND	ND	·	
1,1,2,2-Tetrachloroethan	2	5	ND	ИĎ	ЙĎ	ND	ND		
1,2,3-Trichloropropane	2	5	ND.	ND	ND	ND	ND		
n-Propylbenzene	2	5	ИD	ND	ND	ND	ИĎ		
2-Chiorotoluene	2	5	ND	ND	ND	ND	ND		
4-Chlorotoluene	2	5	ND	ND	ND	ND	ND		
1,3,5-Trimethylbenzene	2	5	ND	מא	ND	412j	506j		
tert-Butylbenzene	2	5	ND	ND	ND	ND	ИБ		
1,2,4-Trimethylbenzene	2	5	ND	ND	ND	1,640	1,582		
Sec-Butylbenzene	2	5	NĎ	ND	ND	ND	ND		
1,3-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
p-Isopropyltoluene	2	3	ND	ND	ИĎ	ďИ	ND		
I,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
1,2-Dichlorobenzene	2	5	ND	ND	ND	ND	ND		
n-Butylbenzene	2	5	ND	ND	ND	ND	ИD		
1.2.4-Trichlorobenzene	2	5	מא	ND	ИĎ	ND	ND		
1,2-Dibromo-3- Chloropropane	2	5	ND	ND	ND	ND	ND		
Hexachlorobutadiene	2	- 5	ND	ND	ND	ND	ND		
Naphthalene	2	5	ND	21.6j	ND	ND	ND	•	
1,2,3-Trichlorobenzene	2	5	ND	ND	ND	מא	ND		
Acetone	5	25	·ND	NĎ	ND	19,200	2,240j		1
2-Butanone (MEK)	5	25	ND	ND	ND	4,080j	ND		
Carbon disulfide	5	25	DA	ND	ND	ND	ND		
4-Methyl-2-pentanone	5	25	ND	ИD	ИĎ	3,120j	ND		
2-Hexanone	5	25	ND	ND .	ND	ND	סא		
Vinyl Acetate	5	25	ND	ND	ND	ND	ND	,	· · · · · · · · · · · · · · · · · · ·
3,4-Dioxane	50	100	ND	ND	ND	ND	ND	1	
MTBE	2	1 2	ND	ND	ND	ND	ND		<del>                                     </del>
ETBE	2	1 2	ND	ND	ND	ND	ND		1
DIPE	2	7 2	ND	ND	ND	ND	ND		1
TAME	2	1 2 -	ND	ND	ND	ND	ND	† <del></del>	<del>                                     </del>
T-Butyl Alcohol	10	10	ND	ND	ND	ND	ND	"	l

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF × MDL), j=trace concentration.

Phone: (323) 888-0728 Fax: (323) 888-1509



#### Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.

Project:Angeles Chemical Co.

Lab Job No.: BL312084

Matrix: Water

Date Reported: 12-31-2003

Date Sampled: 12-10-2003

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE A	ANALY	ZED	12-12	12-12-03	12-12-03	12-12-03	12-12-03	<u> </u>	
DILUTIO	N FAC	TOR		i	100	20	1		
LAB S	A MODY I	FID		BL312084-	BL312084-	BL312084-			
				5	6	7	10		
CLIENT S				MW-13	MW-18	MW-21	ТВ		
COMPOUND	MOL	PQL	MB						
Dichlorodifluoromethane	2	5	ND	ND	ND	ND	ND		
Chloromethane	2	5	ND	ND	ND	ND	ИD		
Vinyl Chloride	2	2	ND	ND	ND	47.3	מת		
Bromomethane	2	5	ND	ND	ND	ND	ND		
Chloroethane	2	5	ИD	ND	ND	ND	ND		
Trichlorofluoromethane	2	5	ИĎ	4.9j	ND	ND	ND		
1,1-Dichloroethene	2	5	ďЙ	10.8	4,170	1,960	ND		
Iodomethane	2	5	ND	ND	ND	ND	ND		
Methylene Chloride	2	5	NĎ	ND	ND	ND	ND		
trans-1,2-Dichloroethene	2	5	ND	ND	ND	ND	ND		
1,1-Dichloroethane	2	5	ND	2.3j	5,440	2,300	ND		
2,2-Dichloropropane	2	5	ND	ND	ND	ND	ND		
cis-1,2-Dichloroethene	2	5	· ND	10.8	14,500	4,400	ND		
Bromochloromethane	2	5	ND	ND	ND	ND	ND		
Chloroform	2	5	ND	ND	ND	ND	ND		
1,2-Dichloroethane	2	5	ND	ИĎ	ND	ND	ND "		
1,1,1-Trichloroethane	2	5	ND	ДИ	1,130	132	ND		
Carbon tetrachloride	2	5	ND	ND	ND	ND	ND		
1,1-Dichloropropene	2	5	ИD	ND	ND	ND	ND		
Benzene	1	1	ND	ND	415	64	ND		
Trichloroethene	1.2	2	ND	47.0	169j	140	ND		
1,2-Dichloropropane	2	5	ND	ND	ND	ŊD	מא		
Bromodichloromethane	2	5	ND	ND "	ND	ND	ИĎ	1	
Dibromomethane	2	5	ND	ND	ND	ND	ND	1	
trans-1,3-Dichloropropene	2	5	ND	ďИ	ND	ND	ND	<u> </u>	<del>                                     </del>
cis-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ДN		
1,1,2-Trichloroethane	2	5	ND	ND	ND	ND	ND		
1,3-Dichloropropane	2	5	ND	ND "	NĎ	ND	ND		
Dibromochloromethane	2	5	ND	ND	ND	ND	ND		ļ .
2-Chloroethylvinyl ether	2	5	ďИ	ND	ND	ND	ND		1
Bromoform	1 2	5	ND	ND	ND	ND	ND		<u> </u>
Isopropylbenzene	2	5	ND	ND	ИD	19.5j	ND	1	
Bromobenzene	2	5	ND	ND	ND	ND	מא	1	i



Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.

Project:Angeles Chemical Co.

Lab Job No.: BL312084

Matrix: Water

Date Reported: 12-31-2003

Date Sampled: 12-10-2003

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-13	MW-18	MW-21	TB	- " -
Toluene	1	1	ND	ND	2,350	ИĎ	ND	
Tetrachloroethene	2	2	ИD	36.3	ND	133	ND	-
1,2-Dibromoethane(EDB)	2	5	ND	ND	ND	מא	ИĎ	
Chlorobenzene	2	5	ИĎ	. ND	ИĎ	מא	ND	
1,1,1,2-Tetrachloroethan	2	5	ND	ממ	מא	ND	ND	
Ethylbenzene	1	1	ND	. ND	690	ND	ND	
Total Xylenes	1	1	ND	ΝĎ	2,610	91.9	ND	**************************************
Styrene	2	5	ND	ND	ND	ND	ND	
1,1,2,2-Tetrachloroethan	2	5	ИD	ИĎ	ďИ	ND	ND	
1,2,3-Trichloropropane	2	5	ND	ND	ND	ND	מא	
n-Propylbenzene	2	5.	ИD	ИD	230j	מא	ND	
2-Chlorotoluene	2	5	ND	ИĎ	ND	NĎ	ND	
4-Chlorotoluene	2	5	מא	ND	ND	מא	מא	
1,3,5-Trimethylbenzene	2	5	מא	סא	459j	ИD	ND	
tert-Butylbenzene	2	5	GN	ND	ND	ND	ND	
1,2,4-Trimethylbenzene	2	5	ND	ND	1,810	מא	ND	
Sec-Butylbenzene	2	5	ND	ND	ND	ND	Ир	
1,3-Dichlorobenzene	2	5	МD	ND	ND	מא	ND	
p-isopropyltoluene	2	3	ИD	ND	ND	ND	ND	
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	
1,2-Dichlorobenzene	2	5	ИĎ	ND	ИD	ND	ND	
n-Butylbenzene	2	3	ND	ND	ND	ЙĎ	ND	
1,2,4-Trichlorobenzene	2	5	ND	ND	ND	ND.	ND	
1,2-Dibromo-3-	2	5	ND	ND	ND	ND	ND	
Chloropropane		" ·	1		1		l	
Hexachlorobutadiene	2	5	ND	ND	ND	ND	NĎ	
Naphthalene	2	5	ДИ	ND	ND	20.0 j	ND	
1,2,3-Trichlorobenzene	2	5	ИD	ND	ND	ND	ND	
Acetone	5	25	ND	ND	32,400	ND	QN	
2-Butanone (MEK)	5	25	ND	ND	23,700	ND	αи	
Carbon disulfide	5	25	ND	ND	ND	סא	ŅĐ	
4-Methyl-2-pentanone	5	25	ND	'ND	1,330j	ND	ND	
2-Hexanone	5	25	ND	ND	ND	ND	ND	
Vinyl Acetate	5	25	ND	ND	ND	ND	ND	
1,4-Dioxane	50	100	ND	ND	ND	ND	NĎ	
MTBE	2	2	ND	ND	ND	ND	ND	1
ĒTBE	2	2	ND	ND	ND	ND	מא	
DIPE	2	2	ND	ND	ND	ND	מא	
TAME	2	2	ND	ND	ND	ND	סמ	
T-Butyl Alcohol	10	10	ND	ND	ND	ИŊ	ND	

MDL-Method Detection Limit, MB-Method Blank; ND-Not Detected (below DF × MDL), j-trace concentration:



#### Environmental Laboratories

12-31-2003

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312084

Project:

Angeles Chemical Co.

Date Sampled:

12-10-2003

Project Site:

8915 Sorensen Ave, Santa Fe Springs

Matrix:

Water

Date Received:

12-10-2003

Batch No.:

CL11-GW1

Date Analyzed:

12-11-2003

EPA 8015M (Gasoline) Reporting Units: µg/L (ppb)

Sample ID	Lab ID	Gasoline (C4-C12)	Method Detection Limit	PQL
Method Blank		ND	50	50
MW-09	BL312084-2	1,280	50	50
MW-10	BL312084-3	77,200	50	50
MW-11	BL312084-4	51,500	50	50
MW-13	BL312084-5	64	50	50
MW-18	BL312084-6	40,600	50	50
MW-21	BL312084-7	2,140	50	50

7

ND: Not Detected (at the specified limit)



#### Environmental Laboratories

12-31-2003

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312084

Project:

Angeles Chemical Co.

Date Sampled:

12-10-2003

Project Site:

8915 Sorensen Ave, Santa Fe Springs

Date Received:

12-10-2003

Matrix:

Product

Date Analyzed:

12-10-2003

Batch No .:

EL10-DW1

#### EPA 8015M (Total Petroleum Hydrocarbons) Reporting Units: mg/L (ppm)

Sample 10	Lab ID	DF	C4-C12* (Gasoline Range)	C13-C23 (Diesel Range)	C23-C40 (Oil Range)
Method Detecti	on Limit (MDL)	,	5	5	25
Practical Qua	mtitation Limit		10	10	50
Method Blank		1	ND	ND	ND
MW-16	BL312084-8	500	455,000	101,000	ND
MW-19	BL312084-9	500	425,000	58,700	מא

Not Detected (at the specified limit) ND:

Phone: (323) 888-0728 Fax: (323) 888-1509



Environmental Laboratories

12-31-2003

#### EPA 8015M (TPH) Batch QA/QC Report

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312084

Project:

Angeles Chemical Co.

Lab Sample ID:

ST1210-1

Marrix:

Water

Batch No.:

EL10-DW1

Date Analyzed:

12-10-2003

#### L MS/MSD Report Unit: ppm

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept, Limit	%Rec Accept. Limit
TPH-d	ND	20	17.7	18.0	88.5	90.0	1.7	30	70-130

#### IL LCS Result Unit ppm

9

Analyte	LCS Report Value	True Value	Rec.%	Accept, Limit
TPH-d	17.8	20	89.0	80-120

ND: Not Detected



Environmental Laboratories

12-31-2003

#### EPA 8015M (TPH) Batch QA/QC Report

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312084

Project:

Angeles Chemical Co.

Matrix:

Water

Lab Sample ID: Date Analyzed: R312091-13 12-11-2003

Batch No .:

CLI1-GWI

L MS/MSD Report Unit: ppb

Analyte	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
TPH-g	ND	1000	1,120	1,070	112.0	107.0	4.6	30	70-130

#### IL LCS Result Unit: ppb

Analyte	LCS Report Value	True Value	Rec.%	Accept. Limit
ТРН-g	1,050	1,000	105.0	80-120

ND:

Not Detected



Environmental Laboratories

12-31-2003

#### EPA 8260B Batch QA/QC Report

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312084

Project:

Angeles Chemical Co.

Lab Sample ID:

BL312084-10

Matrix: Batch No.:

1212-VOAW

Water

Date Analyzed:

12-12-2003

Phone: (323) 888-0728 Fax: (323) 888-1509

#### L MS/MSD Report Unit: ppb

Compound	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
1,1- ` Dichloroethene	ND	20	21.2	19.3	106.0	96.5	9.4	30	70-130
Benzene	ND	20	20.6	19.6	103.0	98.0	5.0	30	70-130
Trichloro- ethene	ND	20	20.9	19.8	104.5	99.0	5.4	30	70-130
Toluene	ND	20	19.7	20.5	98.5	102,5	4,0	30	70-130
Chlorobenzene	ND	20	19.2	18.4	96.0	92.0	4.3	30	70-130

#### IL LCS Result Unit: ppb

Analyte	LCS Value	True Value	Rec.%	Accept. Limit
1,1-Dichloroethene	21.2	20	106.0	80-120
Benzene	20.3	20	101.5	80-120
Trichloro-ethene	23.5	20	117.5	80-120
Toluene	21.0	20	105.0	80-120
Chlorobenzene	19.3	20	96.5	80-120

ND:

Not Detected.

### SOUTHLAND TECHNICAL SERVICES, INC.

CHAIN OF CUSTODY RECORD

Lab Job Number BL 312109

Client: Blokali	Bruiroun	ر بهار م	2 Tv	wsti	ممالات	<i></i>					Ana	lyses	### A Sol SM (Gasoline)  ### Rol SM (Gasoline)  ### Rol SM (Diesel)  ### Rol SM (Diesel)  ### Rol SM (Diesel)  ### Rol SM (Gasoline)  ###					T.A.T. Requested  Rush 8 12 24 hours
4359 P	helem Ed.	. P	helem	Ce	09	2371	TBE)				TEX	firm.)						© 2-3 days © Normal
Report Attention	Phope 746)767-8572	760)16	(-8373) 11-1705	Sampled by	LZ	eko.	×Ζ	Ŷ			ics. E	Con						Sample Condition  Chilled Mintage
Project Name/No.	Project Site	7#)7	5 <del>1-1705</del> wicol	$\sim$	Peru		(BTE	asolir	iesel)	OCs)	кувена	TBE						5×Sample seals
Client	Lab	4	e Collect		/	No.,type* & size of	/8021	SM (C	SM (E	0B (V	OB (O	OB (N						Remarks
Sample ID	Sample ID	Date	Time	Туре	Preserve	container	602	801	801	826	826	826				1	<del> </del>	
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MW-25 Ballow			12:00				<u> </u>			K				-}-		+	<del>-</del>	<u>~ #</u>
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outhland Tech. Services, Inc.

801 Telegraph Road, Suite L & K

Iontebello, CA 90640

Tel: Fax:

(323) 888-0728 (323) 888-1509

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense. Distribution: WHITE with report, PINK to courier.



Environmental Laboratories

12-31-2003

Phone: (323) 888-0728 Fax: (323) 888-1509

Mr. Hiram Garcia Blakely Environmental Investigations, Inc. 4359 Phelan Road Phelan, CA 92371

Project:

Angeles Chemical Co.

Project Site:

8915 Sorensen Ave, Santa Fe Springs

Sample Date: 12-15-2003

Lab Job No.:

BL312109

Dear Mr. Garcia:

Enclosed please find the analytical report for the sample(s) received by STS Environmental Laboratories on 12-15-2003 and analyzed for the following parameters:

EPA 8260B (VOCs by GC/MS)

All analyses have met the QA/QC criteria of this laboratory.

The sample(s) arrived in good conditions (i.e., chilled, intact) and with a chain of custody record attached.

STS Environmental Laboratory is certified by CA DHS (Certificate Number 1986). Thank you for giving us the opportunity to serve you. Please feel free to call me at (323) 888-0728 if our laboratory can be of further service to уоц.

Sincerely.

Roger Wang, Ph. D. Laboratory Director

**Enclosures** 

This cover letter is an integral part of this analytical report.



#### **Environmental Laboratories**

Client: Blakely Environmental Investigations, Inc.

Lab Job No.: BL312109

Date Reported: 12-31-2003

Project:Angeles Chemical Co.

Matrix: Water

Date Sampled: 12-15-2003

EPA 8260B (VOCs by GC/MS, Page 1 of 2) Reporting Unit: ppb

DATE A	ANAL	ZED	12-17	12-17-03	12-17-03	12-17-03	12-17-03	12-17-03	12-17-03
DILUTIC	N FA	CTOR		·· I	· 1 · ·	1	1	1	<u> </u>
LAB S	A NATOT	EID	·	BL312109	BL312109	BL312109	BL312109	BL312109	BL312109
LAB 5.	AWIFL	e LD.	i	-1	<b>-2</b>	-3	<b>-</b> 4	-5	-6
CLIENT S	A MDT	FID		MW-23	MW-23	MW-24	MW-24	MW-25	MW-25
1	AUH LI	L ,L,,,,		Top	Bottom	Тор	Bottom	Тор	Bottom
COMPOUND	MDL	PQL	MB			"			
Dichlorodifluoromethane	2	5	ND	ND	ND	ND	ND	ND	ND
Chloromethane	2	5	ИD	ND	ND	ND	ND	מא	ND
Vinyl Chloride	2	2	ND	ND	ND	ND	ND	ND	ND
Bromomethane	2	5	ND	ND	ND	ND	ND	ND	ND
Chloroethane	2	5	ND	ND	ND	ND	NĐ	ND	ЙĎ
Trichlorofluoromethane	2	5	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	2	5	ND	6.1	6.0	ND	14.6	6.2	7.4
Iodomethane	2	5	ND.	ND	ND	ND	מא	ND	ПD
Methylene Chloride	2	5	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	2.	5	ND	ND	ND	ND.	ND	ND	ND
1,1-Dichloroethane	2	5	ND	ND	ND	DИ	DN	ND	ND
2,2-Dichloropropane	2	5	ND	ND	ND	ND	, ND	ND	ND
cis-1,2-Dichloroethene	2	5	ИD	· ND	2,4J	5.7	8.8	ND	3.4J
Bromochloromethane	2	5	ND	ND	ND	ND	ND	ND	ND
Chloroform	2	5	ND	ND	ND	ND	ДИ	ND	ND
1,2-Dichloroethane	2	- 5	ND	ND	ND	ND	NĎ	ND	ND
1,1,1-Trichloroethane	2	5	ND	2.6J	3.2	ND	2.33	ďИ	ND
Carbon tetrachloride	2	5	ND	ND	ND	ďИ	ND.	ND	ND
1,1-Dichloropropene	2	5	DD	מא	QN	ND	ND "	ND	ND
Benzene	1	1	ND	ND	ND	ND	ND	ND	מא
Trichloroethene	2	2	סא	7.9	11.3	49.3	51.4	39.4	38.5
1,2-Dichloropropane	2	5	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	2	5	ND	ND	ND	ND	ND	ND	dи
Dibromomethane	2	5	ND	ND	מא	ND	ND	ND	ND
trans-1,3-Dichloropropene	2	5	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropene	2	5	מא	ND	ДИ	ND	ДИ	ND	ND
1,1,2-Trichloroethane	2	5	ИD	ND	ND	ND	ND	ND	מא
I,3-Dichloropropane	2	5	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	2	5	_ QN_	ND	ND	ND	ND	ND	ND
2-Chloroethylvinyl ether	2	5	QN	ND	ФИ	ND	ND	ND	ND
Bromoform	2	5	ИD	ЙĎ	Й	ND	ND	ND	ЙD
Isopropylbenzene	2	5	ND	ND	ND	ND	ИD	ND	ND
Bromobenzene	2	5	ND	ND	ND	ND	ЙĎ	ND	מא

Phone: (323) 888-0728 Fax: (323) 888-1509



Environmental Laboratories

Client: Blakely Environmental Investigations, Inc.

Project:Angeles Chemical Co.

Lab Job No.; BL312109

Matrix: Water

Date Reported: 12-31-2003

Date Sampled: 12-15-2003

EPA 8260B (VOCs by GC/MS, Page 2 of 2) Reporting Unit: (ppb)

COMPOUND	MDL	PQL	MB	MW-23	MW-23	MW-24	MW-24	MW-25	MW-25
<u> </u>	I.VIDE	. 00		Тор	Bottom	Тор	Bottom	Top	Bottom
Toluene	1	1	מא	ИĎ	ND	ND	ND	ND	מא
Tetrachloroethene	2	2	ND	14.8	30.6	24.3	75.4	37.2	37.1
1,2-Dibromoethane(EDB)	2	5	מא	ЙĎ	ND	ND	ND	ND	ND
Chlorobenzene	2	5	ND	ДИ	ND	ND	ND	ND	ND
1,1,1,2-Tetrachloroethan	2	5	ND	ΝĎ	ND	ND.	ND	מא	ND
Ethylbenzene	1	l,	ND	ND	ND	ND	ND	<u>מא</u>	ND
Total Xylenes	i	1	מא	ND.	ND	ND	ND	ND	ND
Styrene	2	5	ND	מא	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethan	2	5	ΝD	ДV	ND	ND	NO '	ND	ND
1,2,3-Trichloropropane	2	5	ND	ND	ND	ND	ND	ND	ND
n-Propylbenzene	2	5	ND	ND	ДN	<u>אס</u>	ND	ND	ND -
2-Chlorotoluene	2	- 5	ND	ND	ND	ND	ND	ND	ND
4-Chlorotoluene	2	3	ДV	ND	ND	ND	ND	ND -	ND
1,3,5-Trimethylbenzene	2	5	מע	ND	ИD	ND	ND	ND	ND
tert-Butylbenzene	2	5	ND	ND	ИĎ	ND	ND	מא	ND
1,2,4-Trimethylbenzene	2	5	ND	ND	ND	ND	ND	מא	ND
Sec-Butylbenzene	2	3	ИD	ND	ИĎ	ND	ND	מא	ND
1,3-Dichlorobenzene	2	- 3	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	2	<sup>+</sup> 5	ND	ND	ND	מא	ND	ND.	ND
1,4-Dichlorobenzene	2	5	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	2	5	ND	ND	ŊD	ND	ND	ND	ND
n-Butylbenzene	2	5	ND	ND	ND	מֿא	ND	מא	ND
1,2,4-Trichlorobenzene	2	5	ИĎ	מא	ND	סא	ND	ND	ND
1,2-Dibromo-3-	2	5	ND	ND	NITS.	ND		· · ·	· · · · ·
Chloropropane	1	٠	ND	U.D.	ДŊ	. ND	ND	ND	ИD
Hexachlorobutadiene	2	- 5	ND	ND	ND	ND	ND	מא	ОИ
Naphthalene	2	5	ЙD	ND	ND	ND	ND	ND :	ND
1,2,3-Trichlorobenzene	2	5	ND	NÞ	ND	ND		ИĎ	מא
Acetone	25	25	מא	ND	ND	ND	ND	ND	NO
2-Butanone (MEK)	25	25	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	25	25	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	25	25	ND	ND	ND	ND	ND	מא	ND
2-Hexanone	25	25	ND	ND	ND	ND	ND	ND	ND
Vinyl Acetate	25	25	ИĎ	ND	ND	ND	ND	ND	ND
1,4-Dioxane	50	100	ND	ND	ND	ND	ND	ND	ND
MTBE	2	2	סמ	ND	ND	ND	ND "	ND	ND
ETBE	2	2	ND	ND	ND	ND	ND	מא	ND
DIPE	2	2	ND	ND	ND	ND	ND	ND	ND
TAMÉ	2	2	מֿא	NÞ	ND	ND	ND	ND	ND
T-Butyl Alcohol	10	10	ND.	ND	ND	ND	ND	ND	ND

MDL=Method Detection Limit; MB=Method Blank; ND=Not Detected (below DF × MDL), j=trace concentration

7801 Telegraph Road Suite L. Montebello, CA 90640

Phone: (323) 888-0728 Fax: (323) 888-1509



Environmental Laboratories

12-31-2003

#### EPA 8260B Batch QA/QC Report

Client:

Blakely Environmental Investigations, Inc.

Lab Job No.:

BL312109

Project:

Angeles Chemical Co.

Q312133-3

Matrix:

Water

Lab Sample ID: Date Analyzed:

12-17-2003

Phone: (323) 888-0728 Fax: (323) 888-1509

Batch No:

1217-VOAW

#### L MS/MSD Report Unit: ppb

Compound	Sample Conc.	Spike Conc.	MS	MSD	MS %Rec.	MSD %Rec.	% RPD	%RPD Accept. Limit	%Rec Accept. Limit
I,I- Dichloroethene	ND 	20	20.7	23.8	103.5	119.0	13.9	30	70-130
Benzene	ND	20	21.1	22.9	105.5	114.5	8.2	30	70-130
Trichloro- ethene	ND	20	20.3	25.1	101.5	125.5	21.1	30	70-130
Toluene	מא	20	19.7	23.3	98.5	116.5	16.7	30	70-130
Chlorobenzene	ND	20	20.7	20.9	103.5	104.5	1.0	30	70-130

#### IL LCS Result Unit: ppb

Compound	LCS Report Value	True Value	Rec.%	Accept, Limit
1,1-Dichloroethene	17.2	20	86.0	80-120
Benzene	19.7	20	98.5	80-120
Trichloro-ethene	18.9	20	94.5	80-120
Toluene	18.5	20	92.5	80-120
Chlorobenzene	19,5	20	97.5	80-120

ND:

Not Detected

JETHOR	$\Lambda$ N $\Lambda$	TECHNICAL	egRAICES.	FNIC
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					DY REC	ORD									L	ab Jo	3b Nu	mber	r
Client: South land	Technical	Ser	vices	Inc		<del></del>	T -				Ana	alyse	s Req	juesti			— <u>:::-</u>		T.A.T. Requested
Address 7801 Teleg	graph Rd.	#1.	Mon	tebello	, CA	20640	BE)	$\Gamma$	T		Îŝ	Ę.			fw.	Ī	T	-	□ Rush 8 12 24 hours □ 2-3 days XQ Normal
Report Assession Roger Wong Project Name/No.	Phone 3 2 3 888-0728	Fax 323	1509	Sampled	by		(BTEX,MTBE)	<u>@</u>			cs. BT	Confirm.)	ulfihe		B. Carbonate	anore			Sample Condition
Project Name/No. BL3/12074, BL3/1281	Project Site Angel	is ch	emico.	N C	many,		_	8015M (Gasoline)	8015M (Diesel)	(S)	8260B (Oxygenates, BTEX)	TBE (	1.75	<b>1</b>	, p.:		\ \ \ \ \		□ Chilled □ Intact □ Sample scals
Client	Lab		Collect	- Matrix	( Sample			5M (G	SM (C	8260B (VOCs)	ő) gg	8260B (MTBE	Chboride.	Ackodinity	Conforate,	8			Remarks
Sample ID	Sample 1D	Date	Time	Туре	Preserve	container	602	80	801	826	826(	826(	Chi	13	3	set.			•
MW-12	BB12074-2	12/9/03		HVV									×	<del></del>	_	×			
-14	-3												$\prod$	1	1	$\prod$			
- (5	-4							$\Box$					$\prod$	$\prod$					
-17	-5		<u></u>							Г		Г	$\prod$			$\sqcap$			
20	-6	4		4	<u> </u>							-	V	1	1	1			
							: _												1
MW-9	BL312184-2	14/1/13		HUU								·	×	×	<b>X</b>	X			
· ~[0	-3																		
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-1}	-5				<u> </u>														
-18	-6												$\prod_{i=1}^{n}$	П		$\prod$			
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7801 Telegraph Road, Suite L & K Montebello, CA 90640

(323) 888-0728 Tel:

Fax:

(323) 888-1509

Note: Samples are discarded 30 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client's expense. Distribution: WHITE with report, PINK to courier.



1761 N. Batavia St. Orange, CA 92865 (714) 921-1550 FAX: (714) 921-4770

# **Analytical Report**

REPORT NUMBER: AL-5193-2 CLIENT: STS Environmental Lab

STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640 REPORT ON: Water sample-BL312074-2 MW-12, 12/09/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride Sulfide, dissolved TDS Manganese Carbonate	74.4 ND 730 1.47 ND	0.1 0.05 5.0 0.05 2.0	325.3 376.1 160.1 243.2 Standard Method
Bicarbonate	204	2.0	4500 Standard Method
Total Alkalinity	340	1.0	4500 310.1

TDS= Total dissolved solids



1761 N. Batavia St. Orange, CA 92865

(714) 921-1550 FAX: (714) 921-4770

## **Analytical Report**

REPORT NUMBER: AL-5193-3 CLIENT: STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640

REPORT ON: Water sample-BL312074-3 MW-14, 12/09/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT	DET. LIMIT	METHOD
	mg/l	mg/l	EPA
Chloride Sulfide, dissolved TDS Manganese Carbonate	160	0.1	325.3
	ND	0.05	376.1
	1,140	5.0	160.1
	1.02	0.05	243.2
	ND	2.0	Standard Method
Bicarbonate	210	2.0	4500 Standard Method
Total Alkalinity	350	1.0	4500 310.1

TDS= Total dissolved solids



1761 N. Batavia St. Orange, CA 92865

(714) 921-1550 FAX: (714) 921-4770

## **Analytical Report**

REPORT NUMBER: AL-5193-4

CLIENT:

STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640 REPORT ON:

Water sample-BL312074-4

MW-15, 12/09/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride Sulfide, dissolved TDS Manganese Carbonate	113 ND 1,260 1.14 ND	0.1 0.05 5.0 0.05 2.0	325.3 376.1 160.1 243.2 Standard Method 4500
Bicarbonate	279	2.0	Standard Method 4500
Total Alkalinity	465	1.0	310.1

TDS= Total dissolved solids

1761 N. Batavia St. Orange, CA 92865 (714) 921-1550 FAX: (714) 921-4770

## **Analytical Report**

REPORT NUMBER: AL-5193-5

CLIENT:

STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640 REPORT ON: Water sample-BL312074-5 MW-17, 12/09/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride Sulfide, dissolved TDS Manganese Carbonate	106 ND 1,170 0.23 ND	0.1 0.05 5.0 0.05 2.0	325.3 376.1 160.1 243.2 Standard Method 4500
Bicarbonate	258	2.0	Standard Method 4500
Total Alkalinity	. 430	1.0	310.1

TDS= Total dissolved solids



1761 N. Batavia St. Orange, CA 92865 (714) 921-1550 FAX: (714) 921-4770

## **Analytical Report**

REPORT NUMBER: AL-5193-6

CLIENT:

STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640 REPORT ON:

Water sample-BL312074-6

MW-20, 12/09/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride Sulfide, dissolved TDS Manganese Carbonate	99.3 ND 1,200 0.12 ND	0.1 0.05 5.0 0.05 2.0	325.3 376.1 160.1 243.2 Standard Method 4500
Bicarbonate	287	2.0	Standard Method 4500
Total Alkalinity	479	1.0	310.1

TDS= Total dissolved solids

Peter T. Wu

Lab Director



1761 N. Batavia St. Orange, CA 92865 (714) 921-1550 FAX: (714) 921-4770

## **Analytical Report**

REPORT NUMBER: AL-5193-7

CLIENT:

STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640 REPORT ON: Water sample-BL312084-2 MW-9, 12/10/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	238	0.1	325.3
Sulfide, dissolved	ND	0.05	376.i
TDS	1,250	5.0	160.1
Manganese	0.15	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	324	2.0	Standard Method 4500
Total Alkalinity	540	1.0	310.1

TDS= Total dissolved solids



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## **Analytical Report**

REPORT NUMBER: AL-5193-8

CLIENT:

STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640 REPORT ON:

Water sample-BL312084-3

MW-10, 12/10/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	362	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,540	5.0	160.1
Manganese	6.10	0.05	· 243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	533	2:0	Standard Method 4500
Total Alkalinity	889	1.0	. 310.1

TDS= Total dissolved solids

Peter T. Wu

Lab Director



1761 N. Batavia St. Orange, CA 92865 (714) 921-1550 FAX: (714) 921-4770

## **Analytical Report**

REPORT NUMBER: AL-5193-9

CLIENT:

STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640 REPORT ON: Water sample-BL312084-4 MW-11, 12/10/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT	DET. LIMIT	METHOD
	mg/l	mg/l	EPA
Chloride	344	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,690	5.0	160.1
Manganese	13.5	0.05	243.2
Carbonaté	ND	2.0	Standard Method
Bicarbonate	547	2.0	4500 Standard Method 4500
Total Alkalinity	912	1.0	310.1

TDS= Total dissolved solids



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## **Analytical Report**

REPORT NUMBER: AL-5193-10

CLIENT:

STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640 REPORT ON: Water sample-BL312084-5 MW-13, 12/10/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	106	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TDS	1,160	5.0	160.1
Manganese	0.22	0.05 "	243.2
Carbonate	ND	2.0 .	Standard Method 4500
Bicarbonate	261	2.0	Standard Method 4500
Total Alkalinity	435	1.0	310.1

TDS= Total dissolved solids



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## **Analytical Report**

REPORT NUMBER: AL-5193-11

CLIENT:

STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640 REPORT ON:

Water sample-BL312084-6

MW-18, 12/10/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/i	DET. LIMIT mg/l	METHOD EPA
Chloride Sulfide, dissolved TDS Manganese Carbonate	99.3 ND 1,520 6.94 ND	0.1 0.05 5.0 0.05 2.0	325.3 376.1 160.1 243.2 Standard Method 4500
Bicarbonate	552	2.0	Standard Method 4500
Total Alkalinity	920	1.0	310.1

TDS= Total dissolved solids



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## **Analytical Report**

REPORT NUMBER: AL-5193-12

CLIENT:

STS Environmental Lab. 7801 Telegraph Rd. suite J Montebello, CA 90640 REPORT ON: Water sample-BL312084-7 MW-21, 12/10/03

DATE RECEIVED: 12/12/03 DATE REPORTED: 12/16/03

ANALYSIS	TEST RESULT mg/l	DET. LIMIT mg/l	METHOD EPA
Chloride	135	0.1	325.3
Sulfide, dissolved	ND	0.05	376.1
TD\$	1,110	5.0	160.1
Manganese	1.96	0.05	243.2
Carbonate	ND	2.0	Standard Method 4500
Bicarbonate	318	2.0	Standard Method 4500
Total Alkalinity	530	1.0	310.1

TDS= Total dissolved solids



ASSOCIATED LABORATORIES 806 N. Batavia • Orange, CA 92868 (714) 771-6900 • Fax: (714) 538-1209

121404

CHAIN OF CUSTODY RECORD

CLIENT South	hland Technical S	ervices	THE.						<del></del> -		
	Telegraph Rd #L		PROJECT N	MANAGE	Rog	per h	Jany		Sample	es Intact Yes No	
	CAGOBU		PROJECT M	MBER 37	22 S	88° 0	2728		Sample	Seals Intact Yes No Ambient Cooled Frozen	
DDO IDOT MAKE	) BL 312074, BL 31:		SAMPLERS	: (Signatu	ire)		·		Same Day 24 Hr Regular 48 Hr		
SAMPLE NUMBER	LOCATION DESCRIPTION		DATE	TIME	S/ WATER	MPLE T	SOLID	NO OF CNTNRS	SUSP. CONTAM.		
BL312074-)	MW-12 () 10		14/1/03	mil	<b>&gt;</b>					Total & Dissolved Org. Carbon Too	
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	MW-20 3) 10		11	12:22	√					r <sub>t</sub> tt	
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Special Instruction:	s:							į	DISTRIB	UTION: White with report. Yellow to AL,	



FAX 714/538-1209

CLIENT Southland Technical Services

(6304)

LAB REQUEST 121404

ATTN: Roger Wang

7801 Telegraph Rd.- Suite L

REPORTED

12/22/2003

Montebello, CA 90640

RECEIVED

12/12/2003

PROJECT (Ang. Chem) BL312074, BL312084

SUBMITTER Client

COMMENTS

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods as indicated on the report. This cover letter is an integral part of the final report.

Order No.	Client Sample Identification
484434	BL312074-2
484435	BL312074-3
484436	BL312074-4
484437	BL312074-5
484438	BL312074-6
484439	BL312084-2
484440	BL312084-3
484441	BL312084-4
4 <del>8444</del> 2	BL312084-5
484443	BL312084-6
484 <del>444</del>	BL312084-7
484445	Laboratory Method Blank

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

ASSOCIATED LABORATORIES by

Edward S. Behare, Ph.D Vice President

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 30 days from date reported.

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TESTING & CONSULTING Chemical Microbiological Environmental Order #:

484434

Client Sample ID: BL312074-2

Matrix: WATER

**Pate Sampled:** 12/09/2003

Analyte	Result	DLR	Units	Date/Analyst	
Total Organic Carbon (TOC)					
Dissolved Organic Carbon	3.0	0.5	mg/L	12/18/03 QP	
Total Organic Carbon	3.71	0.5	mg/L	12/18/03 OP	

Order #:

484435

Client Sample ID: BL312074-3

Matrix: WATER

Date Sampled: 12/09/2003

Analyte	Result D		Units	Date/Analyst	
60 Total Organic Carbon (TOC)					
	2.01		A	+0/10/03 OD	
Dissolved Organic Carbon	2.9	0.5	mg/L	12/18/03 QP	

Order #:

484436

Client Sample ID: BL312074-4

Matrix: WATER

Date Sampled: 12/09/2003

Analyte	Result	DLR	Units	Date/Analyst	
Total Organic Carbon (TOC)					
Dissolved Organic Carbon	2.4	0.5	mg/L	12/18/03 QP	

Order #:

484437

Client Sample ID: BL312074-5

Matrix: WATER

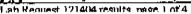
Date Sampled: 12/09/2003

	Analyte	Result	DLR	Units	Date/Analyst	
9060 T	otal Organic Carbon (TOC)					
1	Dissolved Organic Carbon	0.9	0.5	mg/L	12/18/03 QP	
ļ	Total Organic Carbon	1.2	0.5	mg/L	12/18/03 QP	

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit



Analytical Results Report





Order #:

484438

Client Sample ID: BL312074-6

Matrix: WATER

Analyte	Result	DLR	Units	Date/Analyst
otal Organic Carbon (TOC)				
Dissolved Organic Carbon	2.2	0.5	mg/L	12/18/03 QP
Total Organic Carbon	2.6	0.5	mg/L	12/18/03 QP
r #: 484439 Client Samp x: WATER sampled: 12/10/2003	le ID: BL312084-2			
Analyte	Result	DLR	Units	Date/Analyst
Total Organic Carbon (TOC)			•	
Dissolved Organic Carbon	12	0.5	mg/L	12/18/03 QP
		0.5		12/18/03 QP
Total Organic Carbon  er #: 484440 Client Samp ix: WATER Sampled: 12/10/2003	le ID: BL312084-3		mg/L	12/16/03 QF
er #: 484440 Client Samp ix: WATER Sampled: 12/10/2003	ole ID: BL312084-3			
er #: 484440 Client Samy		DLR	Units	Date/Analyst
er #: 484440 Client Samp ix: WATER Sampled: 12/10/2003	ole ID: BL312084-3			
er #: 484440 Client Samp lx: WATER Sampled: 12/10/2003 Analyte	ole ID: BL312084-3			Date/Analyst
er #: 484440 Client Samy lx: WATER Sampled: 12/10/2003  Analyte  Total Organic Carbon (TOC)	ole ID: BL312084-3 Result	DLR	Units	Date/Analyst
er #: 484440 Client Samp lx: WATER Sampled: 12/10/2003  Analyte  Total Organic Carbon (TOC)  Dissolved Organic Carbon  Total Organic Carbon	Die ID: BL312084-3  Result	DLR	Units mg/L	Date/Analyst
er #: 484440 Client Samplex; WATER Sampled: 12/10/2003  Analyte  Total Organic Carbon (TOC)  Dissolved Organic Carbon  Total Organic Carbon  er #: 484441 Client Samplex; WATER	Pie ID: BL312084-3  Result	DLR	Units mg/L mg/L	Date/Analyst
er #: 484440 Client Samplex; WATER Sampled: 12/10/2003  Analyte  Total Organic Carbon (TOC)  Dissolved Organic Carbon  Total Organic Carbon  er #: 484441 Client Samplex; WATER Sampled: 12/10/2003	Ple ID: BL312084-3  Result  195   225   ple ID: BL312084-4	5.0 5.0	Units mg/L mg/L	Date/Analyst  12/18/03 QP  12/18/03 QP



 $DLR = Detection \ limit \ for \ reporting \ purposes, \ \ ND = Not \ Detected \ below \ indicated \ detection \ limit \ .$ 

ASSOCIATED LABORATORIES

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

Dissolved Organic Carbon

Analytical Results Report

ND

0.5

mg/L



12/18/03

DLR = Detection limit for reporting purposes, ND = Not Detected below indicated detection limit

## ASSOCIATED LABORATORIES QA REPORT FORM

QC Sample:

LR 121404-1

Matrix:

WATER

Prep. Date:

12/18/03

Analysis Date:

12/18/03

ID#'s in Batch:

LR 121404

#### MATRIX SPIKE / MATRIX SPIKE DUPLICATE RESULT

Reporting Units = mg/L

Test	Method	Sample Result	Spike Added	Matrix Spike	Matrix Spike Dup	%Rec MS	%Rec MSD	RPD
TOC	415.1 / 9060	3.7	10	13.5	13.6	98	99	l

ND = "U" - Not Detected

RPD = Relative Percent Difference of Matrix Spike and Matrix Spike Duplicate
%REC-MS & MSD = Percent Recovery of Matrix Spike & Matrix Spike Duplicate

	%REC LIMITS	-	80	- 120	
ľ	RPD LIMITS	_	20		

#### PREPARATION BLANK / LAB CONTROL SAMPLE RESULTS

PREP BLK	LCS			1	
Value	Result	True	%Rec	L.Limit	H.Limit
ND	9.6	10	96	80%	120%

Value = Preparation Blank Value; ND = Not-Detected LCS Result = Lab Control Sample Result True = True Value of LCS L.Limit / H.Limit - LCS Control Limits